

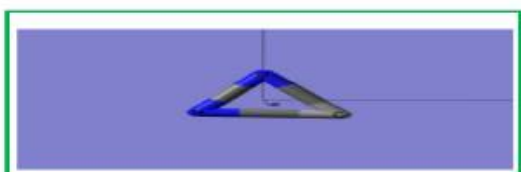


Journal of Applicable Chemistry

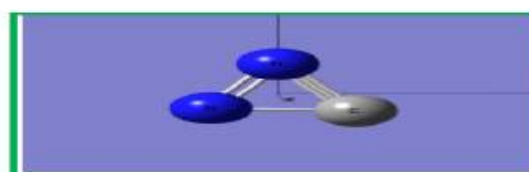
2023, 12 (5): 612-703
(International Peer Reviewed Journal)



New Chemistry News



New News of Chem (NNC)



ChemNewsNew (CNN)

CNN – 52 eXplainable AI Part 3\$. xAI.Ref

Information Source	sciencedirect.com;	
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Conspectus: The research publications on machine learning, layered neural networks (SLP, MLP), Deep neural architectures, vector/ tensor layered networks containing (vector/matrix) Capsules as units, and Transformers in Medicine (diagnosis, treatment, management), environment (pollution), defence, manufacture/synthesis of chemicals, smart-materials, biochemicals/proteins/genes has been raising exponentially year by year. The impact of xAI (explainable artificial intelligence) in the function of methods, choice of procedures is immense. I2O (Input To Output) transformation and end information report is now an essential component of even yesteryears routine activity in the application disciplines. In continuations of our reviews in applications of AI, explainable AI in Medicine, here xAI references in chemistry/bio- chemical-physics/ environment and other fields are documented for the period 2021 Jan to 2023June.

Keywords: eXplainable AI (xAI); Research literature reports (2021-2023June); Models; NN;

CNN; capsule nets; machine learning; Applications; Medicine; Environment, Chemistry; Biochemistry; Industry; Back- propagation; Feed-forward-propagation; Supervised/unsupervised/ semi-supervised/ Self-supervised data;

R. Sambasiva Rao, Artificial Intelligence (AI), Part III→ eXplainable AI (XAI), Part 1: Medical diagnosis, J Applicable Chemistry, 2020, 9 (3): 466-495;

		Layout xAI	
References	I	2023 Jan -to June	K(nowledge)Lab rsr.chem1979
	II	2022 Jan -to Dec	
	III	2021 Jan -to Dec	

Select Ref. xAI

I. 2023 jan -to June

xAI..	Fake news -detection-identification	2023-001
Keywords	Machine learning,	

A systematic survey on explainable AI applied to fake news detection	Ti
Engineering Applications of Artificial Intelligence, 122(2023)106087 https://doi.org/10.1016/j.engappai.2023.106087	Jo
Athira A.B. and S.D. Madhu Kumar and Anu Mary Chacko	Au

xAI..	Geoscience	2023-002
Keywords	Landslide modeling, Explainable deep learning, Nepal Earthquake, Web-GIS, Transparent modeling	

Explainable artificial intelligence in geoscience: A glimpse into the future of landslidesusceptibilitymodelling	Ti
Computers & Geosciences, 176(2023)105364 https://doi.org/10.1016/j.cageo.2023.105364	Jo
Ashok Dahal and Luigi Lombardo	Au

xAI..	Natural Language Processing	2023-003
Keywords	Hybrid word embeddings, Contextual embeddings,	

Explainable hybrid word representations for sentiment analysis of financial news	Ti
Neural Networks,164 (2023) 115-123 https://doi.org/10.1016/j.neunet.2023.04.011	Jo
Surabhi Adhikari and Surendrabikram Thapa and Usman Naseem and Hai Ya Lu and Gnana Bharathy and Mukesh Prasad	Au

xAI..		2023-004
Keywords	Interpretability, Perturbation, Representation space	

Explainability in image captioning based on the latent space	Ti
Neurocomputing,(2023)126319 https://doi.org/10.1016/j.neucom.2023.126319	Jo
Sofiane Elguendouze and Adel Hafiane and Marcilio C.P. de Souto and Anaïs Halftermeyer	Au

xAI..		2023-005
Keywords	Job cycle time prediction	

A modified random forest incremental interpretation method for explaining artificial and deep neural networks in cycle time prediction	Ti
Decision Analytics Journal,7(2023)100226 https://doi.org/10.1016/j.dajour.2023.100226	Jo
Toly Chen and Yu-Cheng Wang	Au

xAI..		2023-006
Keywords	Statistical crop modeling, Nonlinear climate effects, Technology trend	

Crop yield prediction via explainable AI and interpretable machine learning: Dangers of black box models for evaluating climate change impacts on crop yield	Ti
Agricultural and Forest Meteorology,336(2023)109458 https://doi.org/10.1016/j.agrformet.2023.109458	Jo
Tongxi Hu and Xuesong Zhang and Gil Bohrer and Yanlan Liu and Yuyu Zhou and Jay Martin and Yang Li and Kaiguang Zhao	Au

xAI.		2023-007
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Po-04-197 Explainable artificial intelligence in electrocardiography to predict ventricular arrhythmias in patients with arrhythmogenic right ventricular cardiomyopathy		Ti
Heart Rhythm,20(2023) S571-S572 https://doi.org/10.1016/j.hrthm.2023.03.1213		Jo
Steven Muller and Rutger van de Leur and Rene Es and Anneline Riele		Au

xAI..		2023-008
Keywords	Personalized recommendation, IoT	

Dual-LightGCN: Dual light graph convolutional network for discriminative recommendation		Ti
Computer Communications,204(2023)89-100 https://doi.org/10.1016/j.comcom.2023.03.018		Jo
Wenqing Huang and Fei Hao and Jiaxing Shang and Wangyang Yu and Shengke Zeng and Carmen Bisogni and Vincenzo Loia		Au

xAI..	Fault diagnosis	2023-009
Keywords	Score-CAM, Transfer model, HVAC system	

Interpretable mechanism mining enhanced deep learning for fault diagnosis of heating, ventilation and air conditioning systems		Ti
Building and Environment,237(2023)110328 https://doi.org/10.1016/j.buildenv.2023.110328		Jo
Kang Chen and Siliang Chen and Xu Zhu and Xinqiao Jin and Zhimin Du		Au

xAI..	Laser fusion	2023-010
Keywords	Additive manufacturing, Machine learning	

Explainable AI for layer-wise emission prediction in laser fusion		Ti
CIRP Annals, 2023 https://doi.org/10.1016/j.cirp.2023.03.009		Jo
Weihong “Grace” Guo and Vidita Gawade and Bi Zhang and Yuebin Guo		Au

xAI..		2023-011
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Understanding electricity prices beyond the merit order principle using explainable AI		Ti
Energy and AI,13(2023)100250 https://doi.org/10.1016/j.egyai.2023.100250		Jo

Julius Trebbien and Leonardo Rydin Gorjão and Aaron Praktiknjo and Benjamin Schäfer and Dirk Witthaut	Au
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xAI..	fuel cells	2023-012
Keywords		

An interpretable data-driven method for degradation prediction of proton exchange membrane fuel cells based on temporal fusion transformer and covariates	Ti
International Journal of Hydrogen Energy,2023 https://doi.org/10.1016/j.ijhydene.2023.03.316	Jo
Li Hongwei and Qiao Binxin and Hou Zhicheng and Liu Junnan and Yang Yue and Lu Guolong	Au

xAI..	Water Detection	2023-013
Keywords	Attribution Visualization	

Towards transparent deep learning for surface water detection from SAR imagery	Ti
International Journal of Applied Earth Observation and Geoinformation,118(2023)103287 https://doi.org/10.1016/j.jag.2023.103287	Jo
Lifu Chen and Xingmin Cai and Jin Xing and Zhenhong Li and Wu Zhu and Zhihui Yuan and Zhenhuan Fang	Au

xAI..		2023-014
Keywords	Semantic interpretation, Linear feature selection	

Which part of a picture is worth a thousand words: A joint framework for finding and visualizing critical linear features from images	Ti
Information Processing & Management,60(2023)103370 https://doi.org/10.1016/j.ipm.2023.103370	Jo
Yang Yang and Jichang Zhao	Au

xAI..	motorway safety	2023-015
Keywords	Connected and Automated Vehicles, Traffic safety analysis, Variable Speed Limit, Intelligent Speed Adaptation	

Towards the spatial analysis of motorway safety in the connected environment by using explainable deep learning	Ti
Knowledge-Based Systems,269(2023)110523 https://doi.org/10.1016/j.knosys.2023.110523	Jo
Martin Gregurić and Filip Vrbanić and Edouard Ivanjko	Au

xAI..	Rough set based	2023-016
Keywords	Machine learning diagnostics, Surrogate models, Model approximation, Rough sets, Ensembles of reducts	

BrightBox — A rough set based technology for diagnosing mistakes of machine learning models	Ti
Applied Soft Computing,141(2023) 110285 https://doi.org/10.1016/j.asoc.2023.110285	Jo
Andrzej Janusz and Andżelika Zalewska and Łukasz Wawrowski and Piotr Biczuk and Jan Ludziejewski and Marek Sikora and Dominik Ślęzak	Au

xAI..	Amazon reviews	2023-017
Keywords	Attention mechanism, Sentiment analysis, Electronic word of mouth	

Categorizing affective response of customer with novel explainable clustering algorithm: The case study of Amazon reviews	Ti
Electronic Commerce Research and Applications,58(2023)101250 https://doi.org/10.1016/j.elerap.2023.101250	Jo
Wonjoon Kim and Keonwoo Nam and Youngdoo Son	Au

xAI..	Civil engineering	2023-018
Keywords	Defect detection, Degradation, Material defect	

Physical interpretation of machine learning-based recognition of defects for the risk management of existing bridge heritage	Ti
Engineering Failure Analysis,149(2023)107237 https://doi.org/10.1016/j.engfailanal.2023.107237	Jo
Angelo Cardellicchio and Sergio Ruggieri and Andrea Nettis and Vito Renò and Giuseppina Uva	Au

xAI..	Heat transfer	2023-019
Keywords	Correlation, Deep learning, Neural network	

Deep learning-based assessment of saturated flow boiling heat transfer and two-phase pressure drop for evaporating flow	Ti
Engineering Analysis with Boundary Elements,151(2023)519-537 https://doi.org/10.1016/j.enganabound.2023.03.016	Jo
Bo-Lin Chen and Tien-Fu Yang and Uzair Sajjad and Hafiz Muhammad Ali and Wei-Mon Yan	Au

xAI..	Die design	2023-020
Keywords	Machine learning, Hollow profile	

Designing porthole aluminium extrusion dies on the basis of eXplainable Artificial Intelligence		Ti
Expert Systems with Applications,222(2023) 119808 https://doi.org/10.1016/j.eswa.2023.119808		Jo
Juan Llorca-Schenk and Juan Ramón Rico-Juan and Miguel Sanchez-Lozano		Au

xAI..	Landslide	2023-021
Keywords	CNN, SHAP	

An explainable AI (XAI) model for landslide susceptibility modeling		Ti
Applied Soft Computing,142(2023)110324 https://doi.org/10.1016/j.asoc.2023.110324		Jo
Biswajeet Pradhan and Abhirup Dikshit and Saro Lee and Hyesu Kim		Au

xAI..	Time-series	2023-022
Keywords	Credibility, Glass-box, Post-hoc explainers,	

An optimized Belief-Rule-Based (BRB) approach to ensure the trustworthiness of interpreted time-series decisions		Ti
Knowledge-Based Systems, 271(2023)110552 https://doi.org/10.1016/j.knosys.2023.110552		Jo
Sonia Farhana Nimmy and Omar K. Hussain and Ripon K. Chakraborty and Farookh Khadeer Hussain and Morteza Saberi		Au

xAI..		2023-023
Keywords	SHAP	

Examining the role of class imbalance handling strategies in predicting earthquake-induced landslide-prone regions		Ti
Applied Soft Computing,(2023)110429 https://doi.org/10.1016/j.asoc.2023.110429		Jo
Quoc Bao Pham and Ömer Ekmekcioğlu and Sk. Ajim Ali and Kerim Koc and Farhana Parvin		Au

xAI..		2023-024
Keywords	Artificial intelligence, Product development,	

Explainable AI for customer segmentation in product development	Ti
CIRP Annals, (2023). https://doi.org/10.1016/j.cirp.2023.03.004	Jo
Xin Hu and Ang Liu and Xiaopeng Li and Yun Dai and Masayuki Nakao	Au

xAI..		2023-025
Keywords	Adversarial attack	

Exploiting device-level non-idealities for adversarial attacks on ReRAM-based neural networks	Ti
Memories - Materials, Devices, Circuits and Systems, (2023) 100053 https://doi.org/10.1016/j.memori.2023.100053	Jo
Tyler McLemore and Robert Sunbury and Seth Brodzik and Zachary Cronin and Elias Timmons and Dwaipayan Chakraborty	Au

xAI..	ABX3 perovskites	2023-026
Keywords	Ensemble learning, Neural networks	

Explainable machine learning for predicting the band gaps of ABX3 perovskites	Ti
Materials Science in Semiconductor Processing, 161(2023)107427 https://doi.org/10.1016/j.mssp.2023.107427	Jo
David O. Obada and Emmanuel Okafor and Simeon A. Abolade and Aniekan M. Ukpong and David Dodoo-Arhin and Akinlolu Akande	Au

xAI..	Mechanical properties	2023-027
Keywords	Microstructure, Bainite, Martensite-austenite	

Explainable machine learning for predicting the mechanical properties in bainitic steels	Ti
Materials & Design, 230(2023)111946 https://doi.org/10.1016/j.matdes.2023.111946	Jo
Marc Ackermann and Deniz Iren and Yao Yao	Au

xAI..	Ultrafine particles	2023-028
Keywords	Random forest, Support vector regression, XGBoost	

Modeling industrial hydrocyclone operational variables by SHAP-CatBoost - A “conscious lab” approach	Ti
Powder Technology, 420(2023)118416 https://doi.org/10.1016/j.powtec.2023.118416	Jo
S. Chehreh Chelgani and H. Nasiri and A. Tohry and H.R. Heidari	Au

xAI..		2023-029
Keywords	Transparent AI	

The coming of age of interpretable and explainable machine learning models	Ti
Neurocomputing, 535(2023)25-39 https://doi.org/10.1016/j.neucom.2023.02.040	Jo
P.J.G. Lisboa and S. Saralajew and A. Vellido and R. Fernández-Domenech and T. Villmann	Au

xAI..		2023-030
Keywords	Interpretable machine learning, Post-hoc explainability, XAI assessment, Data Fusion, Deep Learning	

Explainable Artificial Intelligence (XAI): What we know and what is left to attain Trustworthy Artificial Intelligence	Ti
Information Fusion, (2023)101805 https://doi.org/10.1016/j.inffus.2023.101805	Jo
Sajid Ali and Tamer Abuhmed and Shaker El-Sappagh and Khan Muhammad and Jose M. Alonso-Moral and Roberto Confalonieri and Riccardo Guidotti and Javier Del Ser and Natalia Díaz-Rodríguez and Francisco Herrera	Au

xAI..	Wildfire susceptibility	2023-031
Keywords	Deep learning, Machine learning, SHAP	

Explainable artificial intelligence (XAI) for interpreting the contributing factors feed into the wildfire susceptibility prediction model	Ti
Science of The Total Environment, 879(2023)163004 https://doi.org/10.1016/j.scitotenv.2023.163004	Jo
Abolfazl Abdollahi and Biswajeet Pradhan	Au

xAI..		2023-032
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Shapley-based feature augmentation	Ti
Information Fusion, 96(2023)92-102 https://doi.org/10.1016/j.inffus.2023.03.010	Jo
Liat Antwarg and Chen Galed and Nathaniel Shimoni and Lior Rokach and Bracha Shapira	Au

xAI..		2023-033
Keywords	Explanation interface, Pragmatism, Brain-computer interface (BCI), Expert system, Contextual design	

Designing an XAI interface for BCI experts : A contextual design for pragmatic explanation interface based on domain knowledge in a specific context	Ti
International Journal of Human-Computer Studies, 174(2023)103009 https://doi.org/10.1016/j.ijhcs.2023.103009	Jo
Sangyeon Kim and Sanghyun Choo and Donghyun Park and Hoonseok Park and Chang S. Nam and Jae-Yoon Jung and Sangwon Lee	Au

xAI..	2023-034
Keywords	Deep learning, Visualization, Saliency map

Extending class activation mapping using Gaussian receptive field	Ti
Computer Vision and Image Understanding, 231(2023)103663 https://doi.org/10.1016/j.cviu.2023.103663	Jo
Bum Jun Kim and Gyogwon Koo and Hyeyeon Choi and Sang Woo Kim	Au

xAI..	2023-035
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Explainable AI (XAI) in Rules as Code (RaC): The DataLex approach	Ti
Computer Law & Security Review, 48(2023)105771 https://doi.org/10.1016/j.clsr.2022.105771	Jo
Andrew Mowbray and Philip Chung and Graham Greenleaf	Au

xAI..	Water quality monitoring	2023-036
Keywords	Stacked convolutional autoencoder,	

Development of transparent high-frequency soft sensor of total nitrogen and total phosphorus concentrations in rivers using stacked convolutional auto-encoder and explainable AI	Ti
Journal of Water Process Engineering, 53(2023)103661 https://doi.org/10.1016/j.jwpe.2023.103661	Jo
Abdulrahman H. Ba-Alawi and SungKu Heo and Hanaa Aamer and Roberto Chang and TaeYong Woo and MinHan Kim and ChangKyoo Yoo	Au

xAI..	Alloy catalysts	2023-037
Keywords	Machine learning, Metal alloy, Surface segregation, Density functional theory,	

Surface segregation machine-learned with inexpensive numerical fingerprint for the design of alloy catalysts	Ti
Molecular Catalysis, 541(2023)113096 https://doi.org/10.1016/j.mcat.2023.113096	Jo
Dongjae Shin and Geonyeong Choi and Charmgil Hong and Jeong Woo Han	Au

xAI..	Multivariate time series prediction	2023-038
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Keywords	Parameter sharing
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Neural additive time-series models : Explainable deep learning for multivariate time-series prediction	Ti
Expert Systems with Applications, 228(2023)120307 https://doi.org/10.1016/j.eswa.2023.120307	Jo
Wonkeun Jo and Dongil Kim	Au

xAI..	Nuclear reactors	2023-039
Keywords	Artificial intelligence, Causal learning, , SciML, XAI	

A review of the application of artificial intelligence to nuclear reactors: Where we are and what's next	Ti
Heliyon, 9(2023)e13883 https://doi.org/10.1016/j.heliyon.2023.e13883	Jo
Qingyu Huang and Shinian Peng and Jian Deng and Hui Zeng and Zhuo Zhang and Yu Liu and Peng Yuan	Au

xAI..		2023-040
Keywords	EPF, SHAP	

Explainability-based Trust Algorithm for electricity price forecasting models	Ti
Energy and AI, 14(2023)100259 https://doi.org/10.1016/j.egyai.2023.100259	Jo
Leena Heistrene and Ram Machlev and Michael Perl and Juri Belikov and Dmitry Baimel and Kfir Levy and Shie Mannor and Yoash Levron	Au

xAI..	Economic panel data	2023-041
Keywords	Tree ensembles, Interpretable machine learning	
	Shapley values	

Explainable artificial intelligence and economic panel data: A study on volatility spillover along the supply chains	Ti
Finance Research Letters, 54(2023)103757 https://doi.org/10.1016/j.frl.2023.103757	Jo
Theo Berger	Au

xAI..	Precision agriculture	2023-042
Keywords	Precision agriculture, Crop recommendation system, Deep learning, Bayesian optimization,	

Soil suitability classification for crop selection in precision agriculture using GBRT-based hybrid DNN surrogate models	Ti
Ecological Informatics, 75(2023) 102109 https://doi.org/10.1016/j.ecoinf.2023.102109	Jo
Showkat Ahmad Bhat and Imtiyaz Hussain and Nen-Fu Huang	Au

xAI..	Flood susceptibility	2023-043
Keywords	Deep learning, South Korea	

Spatial flood susceptibility mapping using an explainable artificial intelligence (XAI) model	Ti
Geoscience Frontiers, 14(2023)101625 https://doi.org/10.1016/j.gsf.2023.101625	Jo
Biswajeet Pradhan and Saro Lee and Abhirup Dikshit and Hyesu Kim	Au

xAI..		2023-044
Keywords	Q-learning, Reliability optimization, Markov model, Artificial bee colony algorithm	

A Q-learning guided search for developing a hybrid of mixed redundancy strategies to improve system reliability	Ti
Reliability Engineering & System Safety, 236(2023)109297 https://doi.org/10.1016/j.res.2023.109297	Jo
Tsung-Jung Hsieh	Au

xAI..		2023-045
Keywords	Black-box	

Explanation leaks: Explanation-guided model extraction attacks	Ti
Information Sciences, 632(2023) 269-284 https://doi.org/10.1016/j.ins.2023.03.020	Jo
Anli Yan and Teng Huang and Lishan Ke and Xiaozhang Liu and Qi Chen and Changyu Dong	Au

xAI..	Mental state decoding	2023-046
Keywords	Neuroimaging, Mental state decoding	

Benchmarking explanation methods for mental state decoding with deep learning models		Ti
NeuroImage, 273(2023) 120109 https://doi.org/10.1016/j.neuroimage.2023.120109		Jo
Armin W. Thomas and Christopher Ré and Russell A. Poldrack		Au
xAI..	Fault diagnosis	2023-047
Keywords	Interpretability, CNN, Classification activation mappings	

An explainable intelligence fault diagnosis framework for rotating machinery		Ti
Neurocomputing, 541(2023)126257 https://doi.org/10.1016/j.neucom.2023.126257		Jo
Daoguang Yang and Hamid Reza Karimi and Len Gelman		Au

xAI..	Classification	2023-048
Keywords	Machine learning, Formal reasoning	

On computing probabilisticabductive explanations		Ti
International Journal of Approximate Reasoning, (2023)108939 https://doi.org/10.1016/j.ijar.2023.108939		Jo
Yacine Izza and Xuanxiang Huang and Alexey Ignatiev and Nina Narodytska and Martin Cooper and Joao Marques-Silva		Au

xAI..	Seismological signal,Earthquake prediction/ detection	2023-049
Keywords	MCLP, Earthquake prediction, Explainable feature engineering	

Most complicated lock pattern-based seismological signal framework for automated earthquake detection		Ti
International Journal of Applied Earth Observation and Geoinformation, 118(2023)103297 https://doi.org/10.1016/j.jag.2023.103297		Jo
Suat Gokhan Ozkaya and Nursena Baygin and Prabal D. Barua and Arvind R. Singh and Mohit Bajaj and Mehmet Baygin and Sengul Dogan and Turker Tuncer and Ru-San Tan and U. Rajendra Acharya		Au

xAI..	Classification	2023-050
Keywords	Counterfactual explanations, Interpretability, Machine learning, Genetic algorithm, ADHD	

CSSE - An agnostic method of counterfactual, selected, and social explanations for classification models	Ti
Expert Systems with Applications, 228(2023)120373 https://doi.org/10.1016/j.eswa.2023.120373	Jo
Marcelo de Sousa Balbino and Luis Enrique Zárate Gálvez and Cristiane Neri Nobre	Au

xAI..	Short circuit diagnosis	2023-051
Keywords	Machine learning, Fault diagnosis, Induction machines, Inter-turn short circuit	
	Shapley additive explanations	

Induction motor short circuit diagnosis and interpretation under voltage unbalance and load variation conditions	Ti
Expert Systems with Applications, 224(2023)119998 https://doi.org/10.1016/j.eswa.2023.119998	Jo
Avyner L.O. Vitor and Alessandro Goedel and Sylvio Barbon and Gustavo H. Bazan and Marcelo F. Castoldi and Wesley A. Souza	Au

xAI..	Water demand	2023-052
Keywords	SHapley Additive exPlanations, Beijing–Tianjin–Hebei region	

Analysis of driving factors of water demand based on explainable artificial intelligence	Ti
Journal of Hydrology: Regional Studies, 47(2023)101396 https://doi.org/10.1016/j.ejrh.2023.101396	Jo
Zhigang Ou and Fan He and Yongnan Zhu and Peiyi Lu and Lichuan Wang	Au

xAI..	Risky driving events	2023-053
Keywords	Driving context, Risk assessment, Usage-based insurance	

Using contextual data to predict risky driving events: A novel methodology from explainable artificial intelligence	Ti
Accident Analysis & Prevention, 184(2023)106997 https://doi.org/10.1016/j.aap.2023.106997	Jo
Leandro Masello and German Castignani and Barry Sheehan and Montserrat Guillen and Finbarr Murphy	Au

xAI..	Environmental management	2023-054
Keywords	Environmental crisis, Environmental management, Management and valorization of solid waste	
	Multimodal and generative pre-trained transformers, Responsible and fair artificial intelligence, Vision-language deep learning models	

AI explainability framework for environmental management research	Ti
Journal of Environmental Management, 342(2023)118149 https://doi.org/10.1016/j.jenvman.2023.118149	Jo
Mehrdad Arashpour	Au

xAI..	2023-055
Keywords	Surrogate machine learning, Deep learning SHapley Additive exPlanations (SHAP)

Use of artificial intelligence in reducing energy costs of a post-combustion carbon capture plant	Ti
Energy,(2023)127834 https://doi.org/10.1016/j.energy.2023.127834	Jo
Kasra Aliyon and Fatemeh Rajaei and Jouni Ritvanen	Au

xAI..	2023-056
Keywords	Text mining, Online review mining, Product planning

Interpretable machine learning-based approach for customer segmentation for new product development from online product reviews	Ti
International Journal of Information Management, 70(2023)102641 https://doi.org/10.1016/j.ijinfomgt.2023.102641	Jo
Junegak Joung and Harrison Kim	Au

xAI..	IoT(Internet of Things) networks	2023-057
Keywords	Cyber defence	

An explainable deep learning-enabled intrusion detection framework in IoT networks	Ti
Information Sciences, 639(2023)119000 https://doi.org/10.1016/j.ins.2023.119000	Jo
Marwa Keshk and Nickolaos Koroniotis and Nam Pham and Nour Moustafa and Benjamin Turnbull and Albert Y. Zomaya	Au

xAI..	2023-058
Keywords	Deep learning, CNN-LSTM model, Transformer model, Probabilistic commonsense reasoning, Probabilistic planning, Ontology, Event calculus, Answer set programming, POMDP

Ontology-based hybrid commonsense reasoning framework for handling context abnormalities in uncertain and partially observable environments	Ti
Information Sciences, 631(2023)468-486 https://doi.org/10.1016/j.ins.2023.02.078	Jo
Koussaila Moulouel and Abdelghani Chibani and Yacine Amirat	Au

xAI..	2023-059
Keywords	Sustainable competitive advantage, Information systems business value, Competitive strategy

Creation of sustainable growth, An empirical insight from consumer-packaged goods retailers	Ti
Journal of Cleaner Production, 399(2023)136605 https://doi.org/10.1016/j.jclepro.2023.136605	Jo
Rajat Kumar Behera and Pradip Kumar Bala and Nripendra P. Rana	Au

xAI..	Malware classification/classification	2023-060
Keywords	Windows memory dump, Android memory dump, Stacked ensemble	

Development of a deep stacked ensemble with process based volatile memory forensics for platform independent malware detection and classification	Ti
Expert Systems with Applications, 223(2023)119952 https://doi.org/10.1016/j.eswa.2023.119952	Jo
Hamad Naeem and Shi Dong and Olorunjube James Falana and Farhan Ullah	Au

xAI..	2023-061
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Unlocking the Black Box of CNNs: Visualising the Decision-Making Process with PRISM	Ti
Information Sciences, (2023)119162 https://doi.org/10.1016/j.ins.2023.119162	Jo
Tomasz Szandala	Au

xAI..	next generation IoT	2023-062
Keywords	Deep learning	

Interpretable intrusion detection for next generation of Internet of Things	Ti
Computer Communications, 203(2023)192-198 https://doi.org/10.1016/j.comcom.2023.03.005	Jo
Youcef Djenouri and Asma Belhadi and Gautam Srivastava and Jerry Chun-Wei Lin and Anis Yazidi	Au

xAI..	Physics-aware CNNs	2023-063
Keywords	Machine learning, CNN, MASW	

Using explainability to design physics-aware CNNs for solving subsurface inverse problems	Ti
Computers and Geotechnics, 159(2023)105452 https://doi.org/10.1016/j.compgeo.2023.105452	Jo
J. Crocker and K. Kumar and B. Cox	Au

xAI..		2023-064
Keywords	Hydraulic system, Faults classification, Sensors, Condition Monitoring (CM), Anomaly detection, Diagnosis,	
	Deep SHapley Additive exPlanations (DeepSHAP), Ethics	

Health condition monitoring of a complex hydraulic system using Deep Neural Network and DeepSHAP explainable XAI	Ti
Advances in Engineering Software, 175(2023)103339 https://doi.org/10.1016/j.advengsoft.2022.103339	Jo
Aurelien Teguede Keleko and Bernard Kamsu-Foguem and Raymond Houe Ngouna and Amèvi Tongne	Au

xAI..	Job cycle time prediction	2023-065
Keywords	Fuzzy linear regression, Classification and regression tree	

An explainable deep-learning approach for job cycle time prediction	Ti
Decision Analytics Journal, 6(2023) 100153 https://doi.org/10.1016/j.dajour.2022.100153	Jo
Yu-Cheng Wang and Toly Chen and Min-Chi Chiu	Au

xAI..	Time series	2023-066
Keywords	Machine learning, Time series forecasting, Interpretability, Association rules	

A new approach based on association rules to add explainability to time series forecasting models	Ti
Information Fusion, 94(2023)169-180 https://doi.org/10.1016/j.inffus.2023.01.021	Jo

A.R. Troncoso-García and M. Martínez-Ballesteros and F. Martínez-Álvarez and A. Troncoso	Au
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xAI..	Air temperature	2023-067
Keywords	Long-term air temperature prediction, Climatology, Neural networks	

One month in advance prediction of air temperature from Reanalysis data with eXplainable Artificial Intelligence techniques	Ti
Atmospheric Research, 284(2023)106608 https://doi.org/10.1016/j.atmosres.2023.106608	Jo
Antonio Manuel Gómez-Orellana and David Guijo-Rubio and Jorge Pérez-Aracil and Pedro Antonio Gutiérrez and Sancho Salcedo-Sanz and César Hervás-Martínez	Au

xAI..		2023-068
Keywords	Machine learning, Black box models	

Prediction and interpretation of antibiotic-resistance genes occurrence at recreational beaches using machine learning models	Ti
Journal of Environmental Management, 328(2023)116969 https://doi.org/10.1016/j.jenvman.2022.116969	Jo
Sara Iftikhar and Asad Mustafa Karim and Aoun Murtaza Karim and Mujahid Aizaz Karim and Muhammad Aslam and Fazila Rubab and Sumera Kausar Malik and Jeong Eun Kwon and Imran Hussain and Esam I. Azhar and Se Chan Kang and Muhammad Yasir	Au

xAI..	Mental Illness	2023-069
Keywords	Natural Language Processing, One-shot Decision Approach, Participation Dynamics	

Fair and Explainable Depression Detection in Social Media	Ti
Information Processing & Management, 60(2023)103168 https://doi.org/10.1016/j.ipm.2022.103168	Jo
V Adarsh and P Arun Kumar and V Lavanya and G.R. Gangadharan	Au

xAI..	Avenues for future research	2023-070
Keywords	Trust, Transparency, Understandability, AI Adoption	

Explainable Artificial Intelligence (XAI) from a user perspective: A synthesis of prior literature and problematizing avenues for future research	Ti
Technological Forecasting and Social Change, 186(2023)122120 https://doi.org/10.1016/j.techfore.2022.122120	Jo

AKM Bahalul Haque and A.K.M. Najmul Islam and Patrick Mikalef	Au
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xAI..		2023-071
Keywords	Black-box, Glass-box, Interpretable models	

Interpreting the antecedents of a predicted output by capturing the interdependencies among the system features and their evolution over time	Ti
Engineering Applications of Artificial Intelligence, 117(2023)105596 https://doi.org/10.1016/j.engappai.2022.105596	Jo
Sonia Farhana Nimmy and Omar K. Hussain and Ripon K. Chakraborty and Farookh Khadeer Hussain and Morteza Saberi	Au

xAI..	Smart Tourism	2023-072
Keywords	Partial Effects, Variable Importance	

Improving Boosted Generalized Additive Models with Random Forests: A Zoo Visitor Case Study for Smart Tourism	Ti
Procedia Computer Science, 217(2023)187-197 https://doi.org/10.1016/j.procs.2022.12.214	Jo
Fabian Obster and Josephine Brand and Monica Ciolacu and Andreas Humpe	Au

xAI..	Squashing functions	2023-073
Keywords	Neural networks, Fuzzy logic, Uninorms, Neuro-symbolic hybrid AI	

Uninorm-like parametric activation functions for human-understandable neural models	Ti
Knowledge-Based Systems, 260(2023)110095 https://doi.org/10.1016/j.knosys.2022.110095	Jo
Orsolya Csiszár and Luca Sára Pusztaházi and Lehel Dénes-Fazakas and Michael S. Gashler and Vladik Kreinovich and Gábor Csiszár	Au

xAI..		2023-074
Keywords	Machine learning, Machine learning interpretability, Decision Support Systems	

AcME—Accelerated model-agnostic explanations: Fast whitening of the machine-learning black box	Ti
Expert Systems with Applications, 214(2023)119115 https://doi.org/10.1016/j.eswa.2022.119115	Jo

David Dandolo and Chiara Masiero and Mattia Carletti and Davide Dalle Pezze and Gian Antonio Susto	Au
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xAI..	Vehicle tracking	2023-075
Keywords	Granular machine learning, Interval analysis, Data stream	

Interval incremental learning of interval data streams and application to vehicle tracking	Ti
Information Sciences, 630(2023)1-22 https://doi.org/10.1016/j.ins.2023.02.027	Jo
Daniel Leite and Igor Škrjanc and Sašo Blažič and Andrej Zdešar and Fernando Gomide	Au

xAI..		2023-076
Keywords	Ridesharing, Ride-hailing, Machine learning, GeoAI, XAI	

Leveraging explainable artificial intelligence and big trip data to understand factors influencing willingness to ridesharing	Ti
Travel Behaviour and Society, 31(2023)284-294 https://doi.org/10.1016/j.tbs.2022.12.006	Jo
Ziqi Li	Au

xAI..		2023-077
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G-LIME: Statistical learning for local interpretations of deep neural networks using global priors	Ti
Artificial Intelligence, 314(2023)103823 https://doi.org/10.1016/j.artint.2022.103823	Jo
Xuhong Li and Haoyi Xiong and Xingjian Li and Xiao Zhang and Ji Liu and Haiyan Jiang and Zeyu Chen and Dejing Dou	Au

xAI..	Mushroom identification	2023-078
Keywords	Domain-specific knowledge, Visual explanation	

Effects of Explainable Artificial Intelligence on trust and human behavior in a high-risk decision task	Ti
Computers in Human Behavior, 139(2023)107539 https://doi.org/10.1016/j.chb.2022.107539	Jo
Benedikt Leichtmann and Christina Humer and Andreas Hinterreiter and Marc Streit and Martina Mara	Au

xAI..		2023-079
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Keywords	Deep neural networks, Model improvement
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Beyond explaining: Opportunities and challenges of XAI-based model improvement	Ti
Information Fusion, 92(2023)154-176 https://doi.org/10.1016/j.inffus.2022.11.013	Jo
Leander Weber and Sebastian Lapuschkin and Alexander Binder and Wojciech Samek	Au

xAI..	2023-080
Keywords	Prediction explanation, Feature construction

Feature construction using explanations of individual predictions	Ti
Engineering Applications of Artificial Intelligence, 120(2023)105823 https://doi.org/10.1016/j.engappai.2023.105823	Jo
Boštjan Vouk and Matej Guid and Marko Robnik-Šikonja	Au

xAI..	2023-081
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Logic Explained Networks	Ti
Artificial Intelligence, 314(2023)103822 https://doi.org/10.1016/j.artint.2022.103822	Jo
Gabriele Ciravegna and Pietro Barbiero and Francesco Giannini and Marco Gori and Pietro Liò and Marco Maggini and Stefano Melacci	Au

xAI..	2023-082
Keywords	Machine Learning, Deep Learning, Attention Networks

Chapter 10 - A methodology to compare XAI explanations on natural language processing	Ti
Explainable Deep Learning AI, (2023)191-216 https://doi.org/10.1016/B978-0-32-396098-4.00016-8	Jo
Gaëlle Jouis and Harold Mouchère and Fabien Picarougne and Alexandre Hardouin	Au

xAI..	2023-083
Keywords	Robustness, Uncertainty

On the robustness of sparse counterfactual explanations to adverse perturbations	Ti
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Artificial Intelligence, 316(2023)103840 https://doi.org/10.1016/j.artint.2022.103840	Jo
Marco Virgolin and Saverio Fracaros	Au

xAI..		2023-084
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Identification of cerebral cortices processing acceleration, velocity, and position during directional reaching movement with deep neural network and explainable AI	Ti
NeuroImage, 266 (2023) 119783 https://doi.org/10.1016/j.neuroimage.2022.119783	Jo
HongJune Kim and June Sic Kim and Chun Kee Chung	Au

xAI..	Time Series, Financial	2023-085
Keywords	Stock market prediction, Machine learning, Deep learning, Empirical mode decomposition, Local interpretable model-agnostic explanations	

Extending machine learning prediction capabilities by explainable AI in financial time series prediction	Ti
Applied Soft Computing,132(2023)109876 https://doi.org/10.1016/j.asoc.2022.109876	Jo
Taha Buğra Çelik and Özgür İcan and Elif Bulut	Au

xAI..	Landslide	2023-086
Keywords	Influencing factors, Generalizability	

Insights into geospatial heterogeneity of landslide susceptibility based on the SHAP-XGBoost model	Ti
Journal of Environmental Management,332 (2023) 117357 https://doi.org/10.1016/j.jenvman.2023.117357	Jo
Junyi Zhang and Xianglong Ma and Jialan Zhang and Deliang Sun and Xinzhi Zhou and Changlin Mi and Haijia Wen	Au

xAI..	Vegetation products	2023-087
Keywords	Machine learning, Black box models	

Chapter 12 - Explainable AI for understanding ML-derived vegetation products	Ti
Artificial Intelligence in Earth Science (2023) 317-335 https://doi.org/10.1016/B978-0-323-91737-7.00008-6	Jo
Geetha Satya Mounika Ganji and Wai Hang Chow Lin	Au

xAI..	Load-bearing capacity	2023-088
Keywords		

Analysis of load-bearing capacity factors of textile-reinforced mortar using multilayer perceptron and explainable artificial intelligence	Ti
Construction and Building Materials, 363(2023) 129560 https://doi.org/10.1016/j.conbuildmat.2022.129560	Jo
Youngjae Song and Kwangsu Kim and Seunghee Park and Sun-Kyu Park and Jongho Park	Au

xAI..		2023-089
Keywords	Deep Learning, Evaluation, Semantic Explanations	

Chapter 15 - Conclusion	Ti
Explainable Deep Learning AI(2023) 317-318 https://doi.org/10.1016/B978-0-32-396098-4.00021-1	Jo
Romain Bourqui and Georges Quénot	Au

xAI..	Groundwater quality	2023-090
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Application of machine learning in groundwater quality modeling - A comprehensive review	Ti
Water Research, 233(2023) 119745 https://doi.org/10.1016/j.watres.2023.119745	Jo
Ryan Haggerty and Jianxin Sun and Hongfeng Yu and Yusong Li	Au

xAI..		2023-091
Keywords	Stochastic differential equation, Equation discovery, Probabilistic machine learning	

A sparse Bayesian framework for discovering interpretable nonlinear stochastic dynamical systems with Gaussian white noise	Ti
Mechanical Systems and Signal Processing, 187(2023)109939 https://doi.org/10.1016/j.ymssp.2022.109939	Jo
Tapas Tripura and Souvik Chakraborty	Au

xAI..	Ground penetrating radar	2023-092
Keywords	Karstified zones	

Karstified zone interpretation using deep learning algorithms: Convolutional neural networks applications and model interpretability with explainable AI	Ti
Computers & Geosciences, 171(2023)105281 https://doi.org/10.1016/j.cageo.2022.105281	Jo
Marcos V.G. Jacinto and Adrião D. Doria Neto and David L. de Castro and Francisco H.R. Bezerra	Au

xAI..	2023-093
Keywords	Example-based Explanation, User Study

Chapter 13 - User tests & techniques for the post-hoc explanation of deep learning	Ti
Explainable Deep Learning AI, (2023)263-291 https://doi.org/10.1016/B978-0-32-396098-4.00019-3	Jo
Eoin Delaney and Eoin M. Kenny and Derek Greene and Mark T. Keane	Au

xAI..	Bankruptcy	2023-094
Keywords	Bankruptcy prediction, Counterfactual-based explanation,	

Feature-Weighted Counterfactual-Based Explanation for Bankruptcy Prediction	Ti
Expert Systems with Applications, 216(2023) 119390 https://doi.org/10.1016/j.eswa.2022.119390	Jo
Soo Hyun Cho and Kyung-shik Shin	Au

xAI..	2023-095
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Tracking vision transformer with class and regression tokens	Ti
Information Sciences, 619 (2023) 276-287 https://doi.org/10.1016/j.ins.2022.11.055	Jo
Emanuel Di Nardo and Angelo Ciaramella	Au

xAI..	2023-096
Keywords	Tristworthy AI, Deep Learning

Chapter 1 - Introduction	Ti
Explainable Deep Learning AI, (2023) 1-6 https://doi.org/10.1016/B978-0-32-396098-4.00007-7	Jo
Jenny Benois-Pineau and Dragutin Petkovic	Au

xAI..		2023-097
Keywords	Ensemble learning, Interpretable machine learning, Rule extraction, Ensemble simplification, tree ensembles	

RuleCOSI+:	Rule extraction for interpreting classification tree ensembles	Ti
	Information Fusion, 89 (2023) 355-381 https://doi.org/10.1016/j.inffus.2022.08.021	Jo
	Josue Obregon and Jae-Yoon Jung	Au

xAI..	cyclic voltammetry, green tea products	2023-098
Keywords	Green tea, Antioxidant activity, Cyclic voltammetry, Multilayer perceptron,	

	Towards the intelligent antioxidant activity evaluation of green tea products during storage: A joint cyclic voltammetry and machine learning study	Ti
	Food Control, 148 (2023) 109660 https://doi.org/10.1016/j.foodcont.2023.109660	Jo
	Liu Jiang and Kang Zheng	Au

xAI..		2023-099
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	Introducing a multi-stakeholder perspective on opacity, transparency and strategies to reduce opacity in algorithm-based human resource management	Ti
	Human Resource Management Review, 33(2023)100881 https://doi.org/10.1016/j.hrmr.2021.100881	Jo
	Markus Langer and Cornelius J. König	Au

xAI..	Real estate valuation	2023-100
Keywords	Real estate valuation, Text mining, Decision support	

	Automated real estate valuation with machine learning models using property descriptions	Ti
	Expert Systems with Applications, 213(2023)119147 https://doi.org/10.1016/j.eswa.2022.119147	Jo
	Katharina Baur and Markus Rosenfelder and Bernhard Lutz	Au

xAI..		2023-101
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Keywords	Tradeoff,--of--Machine learning, Explainability, Performance,
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Stop ordering machine learning algorithms by their explainability! A user-centered investigation of performance and explainability	Ti
International Journal of Information Management, 69(2023) 102538 https://doi.org/10.1016/j.ijinfomgt.2022.102538	Jo
Lukas-Valentin Herm and Kai Heinrich and Jonas Wanner and Christian Janiesch	Au

xAI..	Remote sensing image	2023-102
Keywords	Machine learning, Deep learning, Remote sensing imagery	

Example-based explainable AI and its application for remote sensing image classification	Ti
International Journal of Applied Earth Observation and Geoinformation, 118(2023)103215 https://doi.org/10.1016/j.jag.2023.103215	Jo
Shin-nosuke Ishikawa and Masato Todo and Masato Taki and Yasunobu Uchiyama and Kazunari Matsunaga and Peihuan Lin and Taiki Ogihara and Masao Yasui	Au

xAI..		2023-103
Keywords	Explanation interface, User-centered design, User experience, Interpretability, Conjoint analysis	

How should the results of artificial intelligence be explained to users? - Research on consumer preferences in user-centered explainable artificial intelligence	Ti
Technological Forecasting and Social Change, 188(2023)122343 https://doi.org/10.1016/j.techfore.2023.122343	Jo
Doha Kim and Yeosol Song and Songye Kim and Sewang Lee and Yanqin Wu and Jungwoo Shin and Daeho Lee	Au

xAI..	Pattern classification	2023-104
Keywords	Counterfactual explanations, Symbolic reasoning, Fuzzy clustering, Fuzzy-rough sets	

Prolog-based agnostic explanation module for structured pattern classification	Ti
Information Sciences, 622(2023)1196-1227 https://doi.org/10.1016/j.ins.2022.12.012	Jo
Gonzalo Nápoles and Fabian Hoitsma and Andreas Knoblen and Agnieszka Jastrzebska and Maikel Leon Espinosa	Au

xAI..	Pharmaceutical tablet manufacturing	2023-105
Keywords	Retrospective quality by design, Pharma 4.0, Real-time release testing, Dissolution prediction	

Interpretable artificial neural networks for retrospective QbD of pharmaceutical tablet manufacturing based on a pilot-scale developmental dataset	Ti
International Journal of Pharmaceutics, 633(2023)122620 https://doi.org/10.1016/j.ijpharm.2023.122620	Jo
Brigitta Nagy and Ágnes Szabados-Nacsá and Gergő Fülöp and Anikó Turák Nagyné and Dorián László Galata and Attila Farkas and Lilla Alexandra Mészáros and Zsombor Kristóf Nagy and György Marosi	Au

xAI..	Multi-step traffic	2023-106
Keywords	Attention mechanism, Neural networks,	

Interpretable local flow attention for multi-step traffic flow prediction	Ti
Neural Networks, 161(2023)25-38 https://doi.org/10.1016/j.neunet.2023.01.023	Jo
Xu Huang and Bowen Zhang and Shanshan Feng and Yunming Ye and Xutao Li	Au

xAI..		2023-107
Keywords	Black box models, Desiderata for explanations, Attribution methods, XAI-based model improvement, Neuralization	

Chapter 2 - Explainable deep learning: concepts, methods, and new developments	Ti
Explainable Deep Learning AI, (2023)7-33 https://doi.org/10.1016/B978-0-32-396098-4.00008-9	Jo
Wojciech Samek	Au

xAI..	Anomaly Detection	2023-108
Keywords	Interpretable machine learning, Outlier detection, Unsupervised learning	

Interpretable Anomaly Detection with DIFFI: Depth-based feature importance of Isolation Forest	Ti
Engineering Applications of Artificial Intelligence, 119(2023) 105730 https://doi.org/10.1016/j.engappai.2022.105730	Jo
Mattia Carletti and Matteo Terzi and Gian Antonio Susto	Au

xAI..	Water quality, Pattern recognition	2023-109
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Pattern recognition describing spatio-temporal drivers of catchment classification for water quality		Ti
Science of The Total Environment, 861(2023)160240 https://doi.org/10.1016/j.scitotenv.2022.160240		Jo
Cherie M. O'Sullivan and Afshin Ghahramani and Ravinesh C. Deo and Keith G. Pembleton		Au

xAI..	Robotic applications	2023-110
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Model tree methods for explaining deep reinforcement learning agents in real-time robotic applications		Ti
Neurocomputing, 515(2023)133-144 https://doi.org/10.1016/j.neucom.2022.10.014		Jo
Vilde B. Gjørnum and Inga Strümke and Jakob Løver and Timothy Miller and Anastasios M. Lekkas		Au

xAI..	Underwater vehicles, fault detection	2023-111
Keywords	Smart fault diagnosis, Machine learning	

GASEL: Genetic algorithm-supported ensemble learning for fault detection in autonomous underwater vehicles		Ti
Ocean Engineering, 272(2023)113844 https://doi.org/10.1016/j.oceaneng.2023.113844		Jo
Duygu Bagci Das and Derya Birant		Au

xAI..	Solvent effects	2023-112
Keywords	Solute rejection, Big data	

Explainable machine learning for unraveling solvent effects in polyimide organic solvent nanofiltration membranes		Ti
Advanced Membranes, 3(2023)100061 https://doi.org/10.1016/j.advmem.2023.100061		Jo
Gergo Ignacz and Nawader Alqadhi and Gyorgy Szekely		Au

xAI..	Membrane fouling	2023-113
Keywords	Faulty data reconciliation, Missing data imputation, Multisensor fusion	

Explainable multisensor fusion-based automatic reconciliation and imputation of faulty and missing data in membrane bioreactor plants for fouling alleviation and energy saving	Ti
Chemical Engineering Journal, 452(2023)139220 https://doi.org/10.1016/j.cej.2022.139220	Jo
Abdulrahman H. Ba-Alawi and KiJeon Nam and SungKu Heo and TaeYong Woo and Hanaa Aamer and ChangKyoo Yoo	Au

xAI..	2023-114
Keywords	Building energy efficiency, flexibility, Model interpretability,

Interpretable machine learning for building energy management : A state-of-the-art review	Ti
Advances in Applied Energy,9(2023)100123 https://doi.org/10.1016/j.adapen.2023.100123	Jo
Zhe Chen and Fu Xiao and Fangzhou Guo and Jinyue Yan	Au

xAI..	Power quality disturbance	2023-115
Keywords	Power quality disturbances, PQD, XAI, Convolutional neural networks, Deep-learning, Latent space, Principal components analysis	

Explaining the decisions of power quality disturbance classifiers using latent space features	Ti
International Journal of Electrical Power & Energy Systems,148(2023)108949 https://doi.org/10.1016/j.ijepes.2023.108949	Jo
Ram Machlev and Michael Perl and Avi Caciularu and Juri Belikov and Kfir Yehuda Levy and Yoash Levron	Au

xAI..	2023-116
Keywords	Explanations, Taxonomy

Quod erat demonstrandum? - Towards a typology of the concept of explanation for the design of explainable AI	Ti
Expert Systems with Applications,213(2023)118888 https://doi.org/10.1016/j.eswa.2022.118888	Jo
Federico Cabitza and Andrea Campagner and Gianclaudio Malgieri and Chiara Natali and David Schneeberger and Karl Stoeger and Andreas Holzinger	Au

xAI..	2023-117
Keywords	Product design, Deep learning, Machine learning, Genetic algorithm

Review of artificial intelligence applications in engineering design perspective	Ti
Engineering Applications of Artificial Intelligence,118(2023)105697 https://doi.org/10.1016/j.engappai.2022.105697	Jo
Nurullah Yüksel and Hüseyin Rıza Börklü and Hüseyin Kürşad Sezer and Olcay Ersel Canyurt	Au

xAI..	Multi-agent systems	2023-118
Keywords	Myerson values, Shapley values, A-priori knowledge graphs	

Towards a more efficient computation of individual attribute and policy contribution for post-hoc explanation of cooperative multi-agent systems using Myerson values	Ti
Knowledge-Based Systems,260(2023)110189 https://doi.org/10.1016/j.knosys.2022.110189	Jo
Giorgio Angelotti and Natalia Díaz-Rodríguez	Au

xAI..	Earth science	2023-119
Keywords	Provenance, Workflow platforms, Trustworthy	

Chapter 14 - Provenance in earth AI	Ti
Artificial Intelligence in Earth Science,2023, 357-378 https://doi.org/10.1016/B978-0-323-91737-7.00015-3	Jo
Amruta Kale and Xiaogang Ma	Au

xAI..	Italian Guidelines	2023-120
Keywords	Bridges visual inspections, Damage detection, algorithm	

A new tailored developed software for the risk classification of bridges according to the Italian Guidelines	Ti
Procedia Structural Integrity,44(2023)2012-2019 https://doi.org/10.1016/j.prostr.2023.01.257	Jo
Agnese Natali and Vincenzo Messina and Walter Salvatore and Vincenzo Gervasi and Davide Anzalone and Andrea Canciani and Fabio Severino	Au

xAI..		2023-121
Keywords	Barzilai and Borwein method	

k-best feature selection and ranking via stochastic approximation	Ti
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Expert Systems with Applications,213(2023) 118864 https://doi.org/10.1016/j.eswa.2022.118864	Jo
David V. Akman and Milad Malekipirbazari and Zeren D. Yenice and Anders Yeo and Niranjan Adhikari and Yong Kai Wong and Babak Abbasi and Alev Taskin Gumus	Au

xAI..	2023-122
Keywords	Machine Learning interpretability, Restful API, Flask, Behaviour trees

iSeeE3 — The Explanation Experiences Editor	Ti
SoftwareX, 21(2023) 101311 https://doi.org/10.1016/j.softx.2023.101311	Jo
Marta Caro-Martinez and Jesus M. Darias and Belen Diaz-Agudo and Juan A. Recio-Garcia	Au

xAI..	2023-123
Keywords	Responsible AI

Explainable AI (XAI): A systematic meta-survey of current challenges and future opportunities	Ti
Knowledge-Based Systems,263(2023) 110273 https://doi.org/10.1016/j.knosys.2023.110273	Jo
Waddah Saeed and Christian Omlin	Au

xAI..	Causal discovery	2023-124
Keywords	Real-time prediction	

Time series prediction of tunnel boring machine (TBM) performance during excavation using causal explainable artificial intelligence (CX-AI)	Ti
Automation in Construction,147(2023)104730 https://doi.org/10.1016/j.autcon.2022.104730	Jo
Kunyu Wang and Limao Zhang and Xianlei Fu	Au

xAI..	Plant digital phenomics	2023-125
Keywords	AI system architecture, black box models, data analytics, digital phenomics, interpretable by design models	

A primer on artificial intelligence in plant digital phenomics: embarking on the data to insights journey	Ti
Trends in Plant Science,28 (2023)154-184 https://doi.org/10.1016/j.tplants.2022.08.021	Jo

Antoine L. Harfouche and Farid Nakhle and Antoine H. Harfouche and Orlando G. Sardella and Eli Dart and Daniel Jacobson	Au
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xAI..	COVID-19 pandemic	2023-126
Keywords	Media index, RavenPack, UMAP-LSTM, ISOMAP-GBR, XAI	

Role of proliferation COVID-19 media chatter in predicting Indian stock market: Integrated framework of nonlinear feature transformation and advanced AI	Ti
Expert Systems with Applications,219(2023)119695 https://doi.org/10.1016/j.eswa.2023.119695	Jo
Indranil Ghosh and Esteban Alfaro-Cortés and Matías Gámez and Noelia García-Rubio	Au

xAI..		2023-127
Keywords	Mobile application	

A developer-oriented recommender model for the app store: A predictive network analytics approach	Ti
Journal of Business Research,158(2023)113649 https://doi.org/10.1016/j.jbusres.2023.113649	Jo
Behrooz Davazdahemami and Pankush Kalgotra and Hamed M. Zolbanin and Dursun Delen	Au

xAI..	Agricultural biotechnology	2023-128
Keywords	3D representations, augmented reality, extended reality, mixed reality, virtual reality	

Extended reality gives digital agricultural biotechnology a new dimension	Ti
Trends in Biotechnology,41(2023)1-5 https://doi.org/10.1016/j.tibtech.2022.09.005	Jo
Farid Nakhle and Antoine L. Harfouche	Au

xAI..		2023-129
Keywords	Quasi-experiment, Use behaviour	

Influence of personality and modality on peer assessment evaluation perceptions using Machine Learning techniques	Ti
Expert Systems with Applications,213(2023)119150 https://doi.org/10.1016/j.eswa.2022.119150	Jo
Cristina Cachero and Juan Ramón Rico-Juan and Hermenegilda Macià	Au

xAI..		2023-130
Keywords	Urban morpho-blocks, Light gradient boosting machine, Building energy consumption	

Data-driven estimation of building energy consumption and GHG emissions using explainable artificial intelligence	Ti
Energy,262(2023) 125468 https://doi.org/10.1016/j.energy.2022.125468	Jo
Yan Zhang and Bak Koon Teoh and Maozhi Wu and Jiayu Chen and Limao Zhang	Au

xAI..	Soil moisture	2023-131
Keywords	Data generator, Crop yield analysis, Climate change impacts	

Multiscale extrapolative learning algorithm for predictive soil moisture modeling & applications	Ti
Expert Systems with Applications,213(2023)119056 https://doi.org/10.1016/j.eswa.2022.119056	Jo
Debaditya Chakraborty and Hakan Başağaoğlu and Sara Alian and Ali Mirchi and Daniel N. Moriasi and Patrick J. Starks and Jerry A. Verser	Au

xAI..		2023-132
Keywords	Non fungible tokens (NFT), Decentralized finance (DeFi)	

Prediction and interpretation of daily NFT and DeFi prices dynamics: Inspection through ensemble machine learning & XAI	Ti
International Review of Financial Analysis,87(2023)102558 https://doi.org/10.1016/j.irfa.2023.102558	Jo
Indranil Ghosh and Esteban Alfaro-Cortés and Matías Gámez and Noelia García-Rubio	Au

xAI..		2023-133
Keywords	Shapley additive explanations, Window opening, Cooling setpoint	

Deciphering optimal mixed-mode ventilation in the tropics using reinforcement learning with explainable artificial intelligence	Ti
Energy and Buildings,278(2023)112629 https://doi.org/10.1016/j.enbuild.2022.112629	Jo
Xilei Dai and Siyu Cheng and Adrian Chong	Au

xAI..		2023-134
Keywords	Natural language explanations, Presentation methods	

A survey on XAI and natural language explanations	Ti
Information Processing & Management,60(2023)103111 https://doi.org/10.1016/j.ipm.2022.103111	Jo
Erik Cambria and Lorenzo Malandri and Fabio Mercorio and Mario Mezzanica and Navid Nobani	Au

xAI..		2023-135
Keywords	Split manufacturing, Machine learning	

ObfusX: Routing obfuscation with explanatory analysis of a machine learning attack	Ti
Integration,89(2023)47-55 https://doi.org/10.1016/j.vlsi.2022.10.013	Jo
Wei Zeng and Azadeh Davoodi and Rasit Onur Topaloglu	Au

xAI..	Photovoltaic fault detection	2023-136
Keywords	Machine learning	

Explainable artificial intelligence for photovoltaic fault detection: A comparison of instruments	Ti
Solar Energy, 249 (2023) 139-151 https://doi.org/10.1016/j.solener.2022.11.018	Jo
Christian Utama and Christian Meske and Johannes Schneider and Rutger Schlatmann and Carolin Ulbrich	Au

Select Ref. xAI

II 2022 Jan -to Dec

xAI.	Crop disease classification	2022-001
Keywords	Crop disease image, Plant image classification, Thermal image, Convolutional neural network	

Deep learning-based plant classification and crop disease classification by thermal camera	Ti
Journal of King Saud University - Computer and Information Sciences, 34 (2022) 10474-10486 https://doi.org/10.1016/j.jksuci.2022.11.003	Jo
Ganbayar Batchuluun and Se Hyun Nam and Kang Ryoung Park	Au

xAI.	2022-002
Keywords	Black-box, White-box, Responsible AI, Machine learning, Deep learning

Explainability of artificial intelligence methods, applications and challenges: A comprehensive survey	Ti
Information Sciences,615 (2022)238-292 https://doi.org/10.1016/j.ins.2022.10.013	Jo
Weiping Ding and Mohamed Abdel-Basset and Hossam Hawash and Ahmed M. Ali	Au

xAI.	House Prices	2022-003
Keywords	House prices, Gradient boosting	

Linked Open Government Data to Predict and Explain House Prices: The Case of Scottish Statistics Portal	Ti
Big Data Research, 30 (2022) 100355 https://doi.org/10.1016/j.bdr.2022.100355	Jo
Areti Karamanou and Evangelos Kalampokis and Konstantinos Tarabanis	Au

xAI.	Segmentation	2022-004
Keywords	Deep learning, CNN,Model interpretation, Spider sex recognition	

Visualizing deep networks using segmentation recognition and interpretation algorithm	Ti
Information Sciences, 609 (2022) 1381-1396 https://doi.org/10.1016/j.ins.2022.07.160	Jo
Yongchang Ding and Chang Liu and Haifeng Zhu and Jie Liu and Qianjun Chen	Au

xAI.	Spatial landslide , Time-Series	2022-005
Keywords	Shapley Additive Explanations, SAR, Bhutan	

A novel method using explainable artificial intelligence (XAI)-based Shapley Additive Explanations for spatial landslide prediction using Time-Series SAR dataset	Ti
Gondwana Research, (2022) https://doi.org/10.1016/j.gr.2022.08.004	Jo
Husam A.H. Al-Najjar and Biswajeet Pradhan and Ghassan Beydoun and Raju Sarkar and Hyuck-Jin Park and Adbullah Alamri	Au

xAI.		2022-006
Keywords	Data analytics, Imbalanced data, Feature importance	

Evaluating machine learning techniques to define the factors related to boar taint		Ti
Livestock Science, 2644 (2022)105045 https://doi.org/10.1016/j.livsci.2022.105045		Jo
Georgios Makridis and Evert Heyrman and Dimitrios Kotios and Philip Mavrepis and Bert Callens and Ruben Van De Vijver and Jarissa Maselyne and Marijke Aluwé and Dimosthenis Kyriazis		Au

xAI.	Protein-protein interactions	2022-007
Keywords	virus-host interactions, protein-protein interactions, Siamese neural network, John Cunningham polyomavirus major capsid protein VP1, SARS-CoV-2 spike glycoprotein	

Accurate prediction of virus-host protein-protein interactions via a Siamese neural network using deep protein sequence embeddings		Ti
Patterns, 3 (2022)100551 https://doi.org/10.1016/j.patter.2022.100551		Jo
Sumit Madan and Victoria Demina and Marcus Stapf and Oliver Ernst and Holger Fröhlich		Au

xAI.	Nanoporous surface coatings	2022-008
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Liquid-to-vapor phase change heat transfer evaluation and parameter sensitivity analysis of nanoporous surface coatings		Ti
International Journal of Heat and Mass Transfer, 194 (2022)123088 https://doi.org/10.1016/j.ijheatmasstransfer.2022.123088		Jo
Uzair Sajjad and Imtiyaz Hussain and Khalid Hamid and Hafiz Muhammad Ali and Chi-Chuan Wang and Wei-Mon Yan		Au

xAI.	Vehicle fuel consumption anomalies	2022-009
Keywords	Interpretable machine learning, Explainable boosting machine, Generalized additive models, xAI- metrics	

Interpretable machine learning models for predicting and explaining vehicle fuel consumption anomalies		Ti
Engineering Applications of Artificial Intelligence, 115 (2022)105222 https://doi.org/10.1016/j.engappai.2022.105222		Jo
Alberto Barbado and Óscar Corcho		Au

xAI.	Auditing	2022-010
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Keywords	Machine learning, Material restatement, LIME, SHAP
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Explainable Artificial Intelligence (XAI) in auditing	Ti
International Journal of Accounting Information Systems, 46 (2022) 100572 https://doi.org/10.1016/j.accinf.2022.100572	Jo
Chanyuan (Abigail) Zhang and Soohyun Cho and Miklos Vasarhelyi	Au

xAI.	Vehicle sound quality	2022-011
Keywords	Engine order line, Feature extraction	

Predictive evaluation of spectrogram-based vehicle sound quality via data augmentation and explainable artificial intelligence: Image color adjustment with brightness and contrast	Ti
Mechanical Systems and Signal Processing, 179 (2022) 109363 https://doi.org/10.1016/j.ymsp.2022.109363	Jo
Dongha Kim and Jongsoo Lee	Au

xAI.	Timeseries	2022-012
Keywords	STLF, RNN, Saliency maps	

Introducing explainability in sequence-to-sequence learning for short-term load forecasting	Ti
Electric Power Systems Research, 212 (2022)108366 https://doi.org/10.1016/j.epsr.2022.108366	Jo
Gonca Gürses-Tran and Tobias Alexander Körner and Antonello Monti	Au

xAI.	Aerodrome operations	2022-013
Keywords	Mutual information	

Towards safe and collaborative aerodrome operations: Assessing shared situational awareness for adverse weather detection with EEG-enabled Bayesian neural networks	Ti
Advanced Engineering Informatics, 53 (2022)101698 https://doi.org/10.1016/j.aei.2022.101698	Jo
Cho Yin Yiu and Kam K.H. Ng and Xinyu Li and Xiaoge Zhang and Qinbiao Li and Hok Sam Lam and Man Ho Chong	Au

xAI.	Edge Computing	2022-014
Keywords	Remote sensing, CNN, Data visualization	

Towards explainable AI for hyperspectral image classification in Edge Computing environments	Ti
Computers and Electrical Engineering, 103 (2022)108381 https://doi.org/10.1016/j.compeleceng.2022.108381	Jo

Gianluca De Lucia and Marco Lapegna and Diego Romano	Au
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xAI.	Statistical arbitrage	2022-015
Keywords	Machine learning, Quantitative finance, Time-series forecasting, Stock market forecast,	

An eXplainable Artificial Intelligence tool for statistical arbitrage	Ti
Software Impacts, 14 (2022) 100354 https://doi.org/10.1016/j.simpa.2022.100354	Jo
Salvatore Carta and Sergio Consoli and Alessandro Sebastian Podda and Diego Reforgiato Recupero and Maria Madalina Stanciu	Au

xAI.	Bipolar disorder	2022-016
Keywords	Granular computing, Fuzzy linguistic descriptions, Machine Learning, Neural networks,	

PLENARY: Explaining black-box models in natural language through fuzzy linguistic summaries	Ti
Information Sciences, 614(2022) 374-399 https://doi.org/10.1016/j.ins.2022.10.010	Jo
Katarzyna Kaczmarek-Majer and Gabriella Casalino and Giovanna Castellano and Monika Dominiak and Olgierd Hryniewicz and Olga Kamińska and Gennaro Vessio and Natalia Díaz-Rodríguez	Au

xAI.	Jellyfish abundance	2022-017
Keywords	Model-ecosystem, Coastal waters, Fuzzy rules-based system, Fuzzy clustering, Environmental citizen science	

Estimation of jellyfish abundance in the south-eastern Spanish coastline by using an explainable artificial intelligence model based on fuzzy logic	Ti
Estuarine, Coastal and Shelf Science, 277 (2022)108062 https://doi.org/10.1016/j.ecss.2022.108062	Jo
J. Castro-Gutiérrez and J.C. Gutiérrez-Estrada and J. Aroba and I. Pulido-Calvo and A. Peregrín and J.C. Báez and J.J. Bellido and L. Souviron-Priego	Au

xAI.	Probabilistic regression	2022-018
Keywords	Layer-wise relevance propagation, Variational autoencoder	

VAPER: A deep learning model for explainable probabilistic regression	Ti
Journal of Computational Science, 63 (2022) 101824 https://doi.org/10.1016/j.jocs.2022.101824	Jo
Seungwon Jung and Yoona Noh and Jaek Moon and Eenjun Hwang	Au

xAI.	Package	2022-019
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Keywords	Global explanations, Local explanations, Feature relevance, Python
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RuleXAI—A package for rule-based explanations of machine learning model	Ti
SoftwareX, 20 (2022)101209 https://doi.org/10.1016/j.softx.2022.101209	Jo
Dawid Macha and Michał Kozielski and Łukasz Wróbel and Marek Sikora	Au

xAI.	Omics	2022-020
Keywords	Gene expression, Marker gene, Omics data mining	

Assessment and Optimization of Explainable Machine Learning Models Applied to Transcriptomic Data	Ti
Genomics, Proteomics & Bioinformatics, 20 (2022)899-911 https://doi.org/10.1016/j.gpb.2022.07.003	Jo
Yongbing Zhao and Jinfeng Shao and Yan W. Asmann	Au

xAI.	Li-ion battery	2022-021
Keywords	CNN, Feature extraction,	

Two-stage deep learning for online prediction of knee-point in Li-ion battery capacity degradation	Ti
Applied Energy, 328 (2022) 120204 https://doi.org/10.1016/j.apenergy.2022.120204	Jo
Suyeon Sohn and Ha-Eun Byun and Jay H. Lee	Au

xAI.	Env	2022-022
Keywords	SHAP, Species distribution model, Ensemble Model	

Explainable artificial intelligence reveals environmental constraints in seagrass distribution	Ti
Ecological Indicators, 144 (2022)109523 https://doi.org/10.1016/j.ecolind.2022.109523	Jo
Bohao He and Yanghe Zhao and Wei Mao	Au

xAI.	Concrete cracks	2022-023
Keywords	Fast crack and non-crack classification, Computer vision, Adaptive threshold image binarization, Image processing, Mobile AI	

Fast identification of concrete cracks using 1D deep learning and explainable artificial intelligence-based analysis	Ti
Automation in Construction, 143(2022)104572 https://doi.org/10.1016/j.autcon.2022.104572	Jo

Ganesh Kolappan Geetha and Sung-Han Sim	Au
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xAI.	GNN, Internal representations	2022-024
Keywords	Graph Neural Networks, Monte Carlo Tree Search	

In pursuit of the hidden features of GNN's internal representations	Ti
Data & Knowledge Engineering, 142 (2022) 102097 https://doi.org/10.1016/j.datak.2022.102097	Jo
Luca Veyrin-Forrer and Ataollah Kamal and Stefan Duffner and Marc Plantevit and Céline Robardet	Au

xAI.	Food recommendation	2022-025
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An effective explainable food recommendation using deep image clustering and community detection	Ti
Intelligent Systems with Applications, 16 (2022) 200157 https://doi.org/10.1016/j.iswa.2022.200157	Jo
Mehrdad Rostami and Usman Muhammad and Saman Forouzandeh and Kamal Berahmand and Vahid Farrahi and Mourad Oussalah	Au

xAI.	Interpretable fuzzy modeling	2022-026
Keywords	Fuzzy rule-based classification, Counterfactual explanation, Human evaluation	

An empirical study on how humans appreciate automated counterfactual explanations which embrace imprecise information	Ti
Information Sciences, 618 (2022)379-399 https://doi.org/10.1016/j.ins.2022.10.098	Jo
Iliia Stepin and Jose M. Alonso-Moral and Alejandro Catala and Martín Pereira-Fariña	Au

xAI.	Human poverty	2022-027
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A review of explainable AI in the satellite data, deep machine learning, and human poverty domain	Ti
Patterns, 3(2022) 100600 https://doi.org/10.1016/j.patter.2022.100600	Jo
Ola Hall and Mattias Ohlsson and Thorsteinn Rögnvaldsson	Au

xAI.	Concrete	2022-028
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Verifying domain knowledge and theories on Fire-induced spalling of concrete through eXplainable artificial intelligence	Ti
Construction and Building Materials, 348 (2022)128648 https://doi.org/10.1016/j.conbuildmat.2022.128648	Jo

Mohammad Khaled al-Bashiti and M.Z. Naser	Au
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xAI.	Neural-Symbolic learning/reasoning	2022-029
Keywords	Computer vision, Deep learning, Part-based object classification, Compositional models,	

Greybox XAI: A Neural-Symbolic learning framework to produce interpretable predictions for image classification	Ti
Knowledge-Based Systems, 258 (2022)109947 https://doi.org/10.1016/j.knosys.2022.109947	Jo
Adrien Bennetot and Gianni Franchi and Javier Del Ser and Raja Chatila and Natalia Díaz-Rodríguez	Au

xAI.		2022-030
Keywords	Most relevant explanation, Activity chain	
Explainable Bayesian networks applied to transport vulnerability	Ti	
Expert Systems with Applications, 209(2022) 118348 https://doi.org/10.1016/j.eswa.2022.118348	Jo	
Alta de Waal and Johan W. Joubert	Au	

xAI.	Fault detection	2022-031
Keywords	Interpretable machine learning	

An interpretable unsupervised Bayesian network model for fault detection and diagnosis	Ti
Control Engineering Practice, 127 (2022) 105304 https://doi.org/10.1016/j.conengprac.2022.105304	Jo
Wei-Ting Yang and Marco S. Reis and Valeria Borodin and Michel Juge and Agnès Roussy	Au

xAI.	Real estate	2022-032
Keywords	Feature importance, Interpretability	

An explainable model for the mass appraisal of residences: The application of tree-based Machine Learning algorithms and interpretation of value determinants	Ti
Habitat International, 128 (2022) 102660 https://doi.org/10.1016/j.habitatint.2022.102660	Jo
Muzaffer Can Iban	Au

xAI.		2022-033
Keywords	Representation learning for vision, Intrinsically interpretable model, Manifold learning,	

A novel intrinsically explainable model with semantic manifolds established via transformed priors	Ti
Knowledge-Based Systems, 252 (2022) 109386 https://doi.org/10.1016/j.knosys.2022.109386	Jo
Guangming Shi and Minxi Yang and Dahua Gao	Au

xAI.	Image classification	2022-034
Keywords	XAI, Hierarchical, Middle-level, Interpretable models	

Exploiting auto-encoders and segmentation methods for middle-level explanations of image classification systems	Ti
Knowledge-Based Systems, 255 (2022)109725 https://doi.org/10.1016/j.knosys.2022.109725	Jo
Andrea Apicella and Salvatore Giugliano and Francesco Isgrò and Roberto Prevete	Au

xAI.		2022-035
Keywords	Neural network compression, Edge inference	

Resource efficient AI: Exploring neural network pruning for task specialization	Ti
Internet of Things, 20 (2022)100599 https://doi.org/10.1016/j.iot.2022.100599	Jo
Dieter Balemans and Philippe Reiter and Jan Steckel and Peter Hellinckx	Au

xAI.	Instagram	2022-036
Keywords	Deep learning, User experience, Multimodal ensemble model,	

“Do not deceive me anymore!” interpretation through model design and visualization for instagram counterfeit seller account detection	Ti
Computers in Human Behavior, 137 (2022) 107418 https://doi.org/10.1016/j.chb.2022.107418	Jo
Jeongeun Park and Jinmo Gu and Ha Young Kim	Au

xAI.		2022-037
Keywords	Building energy benchmarking, Energy performance certificates, Classification algorithms, Clustering analysis,	

Bridging the gap between complexity and interpretability of a data analytics-based process for benchmarking energy performance of buildings	Ti
Expert Systems with Applications, 126 (2022) 117649 https://doi.org/10.1016/j.eswa.2022.117649	Jo
Antonio Galli and Marco Savino Piscitelli and Vincenzo Moscato and Alfonso Capozzoli	Au

xAI.	Chemical process	2022-038
Keywords	Chemical process, Process safety, Fault detection, Fault diagnosis, Fault correction	

XFDDC: eXplainable Fault Detection Diagnosis and Correction framework for chemical process systems	Ti
Process Safety and Environmental Protection , 165 (2022) 463-474 https://doi.org/10.1016/j.psep.2022.07.019	Jo
R. Rajesh Alias Harinarayan and S. Mercy Shalinie	Au

xAI.		2022-039
Keywords	Optimal power flow, Machine learning,	

Reactive power control in photovoltaic systems through (explainable) artificial intelligence	Ti
Applied Energy , 328 (2022)120004 https://doi.org/10.1016/j.apenergy.2022.120004	Jo
Christian Utama and Christian Meske and Johannes Schneider and Carolin Ulbrich	Au

xAI.	Bibliometrics	2022-040
Keywords	Citations, Machine learning, Big data, SHAP	

An explainable artificial-intelligence-based approach to investigating factors that influence the citation of papers	Ti
Technological Forecasting and Social Change ,184 (2022) 121974 https://doi.org/10.1016/j.techfore.2022.121974	Jo
Taehyun Ha	Au

xAI.	Cesarean section	2022-041
Keywords	Hyperparameter optimization, ADASYN, HGSORF	
	SHAP, LIME	

HGSORF: Henry Gas Solubility Optimization-based Random Forest for C-Section prediction and XAI-based cause analysis	Ti
Computers in Biology and Medicine , 147 (2022) 105671 https://doi.org/10.1016/j.combiomed.2022.105671	Jo
Md Saiful Islam and Md. Abdul Awal and Jinnaton Nessa Laboni and Farhana Tazmim Pinki and Shatu Karmokar and Khondoker Mirazul Mumenin and Saad Al-Ahmadi and Md. Ashfikur Rahman and Md. Shahadat Hossain and Seyedali Mirjalili	Au

xAI.		2022-042
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Keywords	Self-Organizing Map (SOM)
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Interpretable Artificial Intelligence through Locality Guided Neural Networks	Ti
Neural Networks, 155(2022) 58-73 https://doi.org/10.1016/j.neunet.2022.08.009	Jo
Randy Tan and Lei Gao and Naimul Khan and Ling Guan	Au

xAI.	Alloy steel	2022-043
Keywords	Alloy steel, Heat treatment, Austenite, Grain growth, Machine learning	

Prediction and mechanism explain of austenite-grain growth during reheating of alloy steel using XAI	Ti
Journal of Materials Research and Technology, 21(2022) 1408-1418 https://doi.org/10.1016/j.jmrt.2022.09.119	Jo
Junhyub Jeon and Namhyuk Seo and Jae-Gil Jung and Hee-Soo Kim and Seung Bae Son and Seok-Jae Lee	Au

xAI.	Stock market forecast,	2022-044
Keywords	Machine learning,	

Statistical arbitrage powered by Explainable Artificial Intelligence	Ti
Expert Systems with Applications, 206 (2022) 117763 https://doi.org/10.1016/j.eswa.2022.117763	Jo
Salvatore Carta and Sergio Consoli and Alessandro Sebastian Podda and Diego Reforgiato Recupero and Maria Madalina Stanciu	Au

xAI.		2022-045
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Explaining deep neural networks: A survey on the global interpretation methods	Ti
Neurocomputing, 513 (2022) 165-180 https://doi.org/10.1016/j.neucom.2022.09.129	Jo
Rabia Saleem and Bo Yuan and Fatih Kurugollu and Ashiq Anjum and Lu Liu	Au

xAI.	Med, EEG	2022-046
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On the relative importance of attention and response selection processes for multi-component behavior – Evidence from EEG-based deep learning	Ti
Neuroimage: Reports, 2 (2022)100118 https://doi.org/10.1016/j.ynirp.2022.100118	Jo
Amirali Vahid and Ann-Kathrin Stock and Moritz Mückschel and Christian Beste	Au

xAI.	GeoAI	2022-047
Keywords	MGWR	

Extracting spatial effects from machine learning model using local interpretation method: An example of SHAP and XGBoost	Ti
Computers, Environment and Urban Systems, 96 (2022) 101845 https://doi.org/10.1016/j.compenvurbsys.2022.101845	Jo
Ziqi Li	Au

xAI.		2022-048
Keywords	Machine learning, Automated network management	

Explainable Artificial Intelligence in communication networks: A use case for failure identification in microwave networks	Ti
Computer Networks, 219(2022)109466 https://doi.org/10.1016/j.comnet.2022.109466	Jo
Omran Ayoub and Nicola Di Cicco and Fatima Ezzeddine and Federica Bruschetta and Roberto Rubino and Massimo Nardecchia and Michele Milano and Francesco Musumeci and Claudio Passera and Massimo Tornatore	Au

xAI.		2022-049
Keywords	Eye-tracking, Radial basis function networks, Markov chains, Concept drift	

Real-time identification of eye fixations and saccades using radial basis function networks and Markov chains	Ti
Pattern Recognition Letters, 162 (2022) 63-70 https://doi.org/10.1016/j.patrec.2022.08.013	Jo
Ruivaldo Lobão-Neto and Adrien Brillhault and Sergio Neuenschwander and Ricardo Rios	Au

xAI.	Building load predictions, köppen and geiger climate classification system	2022-050
Keywords	Local interpretable model-agnostic explanations, SHapley additive explanations, Long Short-term memory networks,	

Analysis of input parameters for deep learning-based load prediction for office buildings in different climate zones using eXplainable Artificial Intelligence	Ti
Energy and Buildings, 276 (2022) 112521 https://doi.org/10.1016/j.enbuild.2022.112521	Jo
Woong June Chung and Chunde Liu	Au

xAI.	Coal	2022-051
Keywords	Free swelling index, Gieseler plastometer, Machine learning, Modeling	

Modeling coking coal indexes by SHAP-XGBoost: Explainable artificial intelligence method	Ti
Fuel Communications, 13 (2022) 100078 https://doi.org/10.1016/j.jfueco.2022.100078	Jo
A. Homafar and H. Nasiri and S.Chehreh Chelgani	Au

xAI.	Futures prices	2022-052
Keywords	Spot prices, Boruta, Regularized Random forest	

A hybrid approach to forecasting futures prices with simultaneous consideration of optimality in ensemble feature selection and advanced artificial intelligence	Ti
Technological Forecasting and Social Change, 181 (2022) 121757 https://doi.org/10.1016/j.techfore.2022.121757	Jo
Indranil Ghosh and Tamal Datta Chaudhuri and Esteban Alfaro-Cortés and Matías Gámez and Noelia García	Au

xAI.	Forensic anthropology	2022-053
Keywords	Skeleton-based age assessment, Ordinal classification, Oversampling methods	

Automating the decision making process of Todd's age estimation method from the pubic symphysis with explainable machine learning	Ti
Information Sciences, 612 (2022) 514-535 https://doi.org/10.1016/j.ins.2022.08.110	Jo
Juan Carlos Gámez-Granados and Javier Irurita and Raúl Pérez and Antonio González and Sergio Damas and Inmaculada Alemán and Oscar Córdón	Au

xAI.	Classification	2022-054
Keywords	Three-way decision, Neuro-fuzzy system, Granular computing, Interpretable models	

3WDNFS – Three-way decision neuro-fuzzy system for classification	Ti
Fuzzy Sets and Systems, (2022) https://doi.org/10.1016/j.fss.2022.10.021	Jo
Krzysztof Siminski	Au

xAI.	Petrochemical industry	2022-055
Keywords	Net-zero carbon	

Explainable AI-driven net-zero carbon roadmap for petrochemical industry considering stochastic scenarios of remotely sensed offshore wind energy	Ti
Journal of Cleaner Production, 379 (2022) 134793 https://doi.org/10.1016/j.jclepro.2022.134793	Jo
SungKu Heo and Jaerak Ko and SangYoun Kim and Chanhyeok Jeong and Soonho Hwangbo and ChangKyoo Yoo	Au

xAI.	Earthquake probability	2022-056
Keywords	Machine learning, GIS	

A new method to promptly evaluate spatial earthquake probability mapping using an explainable artificial intelligence (XAI) model		Ti
Gondwana Research, (2022) https://doi.org/10.1016/j.gr.2022.10.003		Jo
Ratiranjan Jena and Biswajeet Pradhan and Shilpa Gite and Abdullah Alamri and Hyuck-Jin Park		Au

xAI.	Structural damage	2022-057
Keywords	Structural health monitoring, Guided map analysis	

Deep learning visual interpretation of structural damage images		Ti
Journal of Building Engineering, 60 (2022) 105144 https://doi.org/10.1016/j.job.2022.105144		Jo
Yuqing Gao and Khalid M. Mosalam		Au

xAI.	Natural language classifiers	2022-058
Keywords	Adversarial attacks, Model tampering	

Tamp-X: Attacking explainable natural language classifiers through tampered activations		Ti
Computers & Security, 120 (2022) 102791 https://doi.org/10.1016/j.cose.2022.102791		Jo
Hassan Ali and Muhammad Suleman Khan and Ala Al-Fuqaha and Junaid Qadir		Au

xAI.	Neuroimaging	2022-059
Keywords	mental state decoding, transfer learning, reproducibility, robustness	

Interpreting mental state decoding with deep learning models		Ti
Trends in Cognitive Sciences, 26 (2022) 972-986 https://doi.org/10.1016/j.tics.2022.07.003		Jo
Armin W. Thomas and Christopher Ré and Russell A. Poldrack		Au

xAI.	Cybersecurity	2022-060
Keywords	Adversarial samples, LIME, SHAP	

Explainable Artificial Intelligence for Cybersecurity		Ti
Computers and Electrical Engineering, 103 (2022) 108356 https://doi.org/10.1016/j.compeleceng.2022.108356		Jo
Deepak Kumar Sharma and Jahanavi Mishra and Aeshit Singh and Raghav Govil and Gautam Srivastava and Jerry Chun-Wei Lin		Au

xAI.		2022-061
Keywords	Short-term load forecasting, Building energy data analytics	

Toward explainable electrical load forecasting of buildings: A comparative study of tree-based ensemble methods with Shapley values		Ti
Sustainable Energy Technologies and Assessments, 54 (2022) 102888 https://doi.org/10.1016/j.seta.2022.102888		Jo
Jihoon Moon and Seungmin Rho and Sung Wook Baik		Au

xAI.		2022-062
Keywords	Indoor location, WiFi fingerprint-based localization, Gaussian process regression, Long Short-Term Memory, IoT	

A fingerprint-based localization algorithm based on LSTM and data expansion method for sparse samples		Ti
Future Generation Computer Systems, 137 (2022) 380-393 https://doi.org/10.1016/j.future.2022.07.021		Jo
Bing Jia and Wenling Qiao and Zhaopeng Zong and Shuai Liu and Mohammad Hijji and Javier Del Ser and Khan Muhammad		Au

xAI.		2022-063
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Can counterfactual explanations of AI systems' predictions skew lay users' causal intuitions about the world? If so, can we correct for that?		Ti
Patterns, 13 (2022) 100635 https://doi.org/10.1016/j.patter.2022.100635		Jo
Marko Tešić and Ulrike Hahn		Au

xAI.	Lane-changing	2022-064
Keywords	Mandatory lane-changing, Discretionary lane-changing, Machine learning, Prediction, Interpretability, NGSIM, Transferability	

Predicting and explaining lane-changing behaviour using machine learning: A comparative study		Ti
Transportation Research Part C: Emerging Technologies, 145 (2022)103931 https://doi.org/10.1016/j.trc.2022.103931		Jo
Yasir Ali and Fizza Hussain and Michiel C.J. Bliemer and Zuduo Zheng and Md. Mazharul Haque		Au

xAI.	Building information	2022-065
Keywords	Building Information Modelling, BIM, Semantic segmentation, Type-2 fuzzy logic systems, Convolutional neural network (CNN)	

A type-2 fuzzy system-based approach for image data fusion to create building information models		Ti
Information Fusion, 88 (2022) 115-125 https://doi.org/10.1016/j.inffus.2022.07.007		Jo

Hugo Leon-Garza and Hani Hagraas and Anasol Peña-Rios and Anthony Conway and Gilbert Owusu	Au
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xAI.	Med Diagnosis with radiology	2022-066
Keywords	Deep learning, Radiology, Computer aided diagnosis	

A systematic review on the use of explainability in deep learning systems for computer aided diagnosis in radiology: Limited use of explainable AI?	Ti
European Journal of Radiology, 157 (2022) 110592 https://doi.org/10.1016/j.ejrad.2022.110592	Jo
Arjan M. Groen and Rik Kraan and Shahira F. Amirkhan and Joost G. Daams and Mario Maas	Au

xAI.	Mortgage industry	2022-067
Keywords	Interpretable machine learning, Fair Bias detection, Fraud detection	

Increasing trust and fairness in machine learning applications within the mortgage industry	Ti
Machine Learning with Applications, 10 (2022)100406 https://doi.org/10.1016/j.mlwa.2022.100406	Jo
W. van Zetten and G.J. Ramackers and H.H. Hoos	Au

xAI.	Alloys	2022-068
Keywords	Multi-principal element alloys, High entropy alloys, Machine learning, Model interpretability, Yield strength,	

Explainable artificial intelligence approach for yield strength prediction in as-cast multi-principal element alloys	Ti
Materialia, 26 (2022) 101628 https://doi.org/10.1016/j.mtla.2022.101628	Jo
Kyungtae Lee and Prasanna V. Balachandran	Au

xAI.		2022-069
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Solving the class imbalance problem using a counterfactual method for data augmentation	Ti
Machine Learning with Applications, 9 (2022) 100375 https://doi.org/10.1016/j.mlwa.2022.100375	Jo
Mohammed Temraz and Mark T. Keane	Au

xAI.		2022-070
Keywords	Energy performance certificates, Retrofitting, Energy efficiency policy, Data analytics, Policy implications	

Evidence for residential building retrofitting practices using explainable AI and socio-demographic data	Ti
Energy Reports, 8 (2022) 13514-13528	Jo

https://doi.org/10.1016/j.egyr.2022.10.060	
Simon Wenninger and Philip Karnebogen and Sven Lehmann and Tristan Menzinger and Michelle Reckstadt	Au

xAI.	Face forgery	2022-071
Keywords	Privacy and security, Generative adversarial network, Latent feature analysis and manipulation, Data diversity	

A controllable face forgery framework to enrich face-privacy-protection datasets	Ti
Image and Vision Computing, 127 (2022) 104566 https://doi.org/10.1016/j.imavis.2022.104566	Jo
Jiachen Yang and Yong Zhu and Shuai Xiao and Guipeng Lan and Yang Li	Au

xAI.	Cybersecurity	2022-072
Keywords	Hybrid AI, Malicious behavior in social networks, Application frameworks, News recommender systems	

The HEIC application framework for implementing XAI-based socio-technical systems	Ti
Online Social Networks and Media, 32 (2022) 100239 https://doi.org/10.1016/j.osnem.2022.100239	Jo
Jose N. Paredes and Juan Carlos L. Teze and Maria Vanina Martinez and Gerardo I. Simari	Au

xAI.		2022-073
Keywords	Explainable neural networks, Unsupervised learning, Automatic cluster identification, Deep convolutional autoencoder	

PredMaX: Predictive maintenance with explainable deep convolutional autoencoders	Ti
Advanced Engineering Informatics, 54 (2022)101778 https://doi.org/10.1016/j.aei.2022.101778	Jo
Gergely Hajgató and Richárd Wéber and Botond Szilágyi and Balázs Tóthpál and Bálint Gyires-Tóth and Csaba Hős	Au

xAI.	Molecular property prediction	2022-074
Keywords	Quantitative assessments, molecular property benchmarks	

Quantitative evaluation of explainable graph neural networks for molecular property prediction	Ti
Patterns, 3 (2022) 100628 https://doi.org/10.1016/j.patter.2022.100628	Jo
Jiahua Rao and Shuangjia Zheng and Yutong Lu and Yuedong Yang	Au

xAI.	Earth observation	2022-075
Keywords	Remote sensing, Machine learning, Ethics, Regulations	

Explainable AI for earth observation: A review including societal and regulatory perspectives	Ti
International Journal of Applied Earth Observation and Geoinformation, 112(2022) 102869 https://doi.org/10.1016/j.jag.2022.102869	Jo
Caroline M. Gevaert	Au

xAI.	Underground natural gas storage	2022-076
Keywords	Artificial neural network, Data-driven modeling, Interpretable machine learning, Natural gas industry, Random forests, Support vector regression	

Towards more accurate and explainable supervised learning-based prediction of deliverability for underground natural gas storage	Ti
Applied Energy, 327 (2022) 120098 https://doi.org/10.1016/j.apenergy.2022.120098	Jo
Aliyuda Ali and Kachalla Aliyuda and Nouh Elmitwally and Abdulwahab Muhammad Bello	Au

xAI.		2022-077
Keywords	Reinforcement learning, Cognitive modeling, Developmental robotics, Post-hoc rule extraction	

Explaining Aha! moments in artificial agents through IKE-XAI: Implicit Knowledge Extraction for eXplainable AI	Ti
Neural Networks, 155 (2022) 95-118 https://doi.org/10.1016/j.neunet.2022.08.002	Jo
Ikram Chraïbi Kaadoud and Adrien Bennetot and Barbara Mawhin and Vicky Charisi and Natalia Díaz-Rodríguez	Au

xAI.		2022-078
Keywords	Ensemble method, Feature selection, SHapley Additive exPlanations	

An explainable artificial intelligence approach for financial distress prediction	Ti
Information Processing & Management, 59 (2022) 102988 https://doi.org/10.1016/j.ipm.2022.102988	Jo
Zijiao Zhang and Chong Wu and Shiyong Qu and Xiaofang Chen	Au

xAI.	Brain,MRI	2022-079
Keywords	Wrap-around, Gibbs ringing, Automated quality assurance	

ArtifactID: Identifying artifacts in low-field MRI of the brain using deep learning	Ti
Magnetic Resonance Imaging, 89 (2022)42-48 https://doi.org/10.1016/j.mri.2022.02.002	Jo
Marina Manso Jimeno and Keerthi Sravan Ravi and Zhezhen Jin and Dotun Oyekunle and Godwin Ogbole and Sairam Geethanath	Au

xAI.	Electricity price forecasting	2022-080
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Keywords	Forecast evaluation
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Electricity price forecasting on the day-ahead market using machine learning	Ti
Applied Energy, 313 (2022) 118752 https://doi.org/10.1016/j.apenergy.2022.118752	Jo
Léonard Tschora and Erwan Pierre and Marc Plantevit and Céline Robardet	Au

xAI.	Cryptocurrency	2022-081
Keywords	Bitcoin blockchain, Ethereum blockchain	

Effect of data resampling on feature importance in imbalanced blockchain data: comparison studies of resampling techniques	Ti
Data Science and Management, 5 (2022) 66-76 https://doi.org/10.1016/j.dsm.2022.04.003	Jo
Ismail Alarab and Simant Prakoonwit	Au

xAI.	Smart manufacturing	2022-082
Keywords	Physical knowledge	

Hybrid physics-based and data-driven models for smart manufacturing: Modelling, simulation, and explainability	Ti
Journal of Manufacturing Systems, 63 (2022) 381-391 https://doi.org/10.1016/j.jmsy.2022.04.004	Jo
Jinjiang Wang and Yilin Li and Robert X. Gao and Fengli Zhang	Au

xAI.		2022-083
Keywords	Image-based personalisation, Matrix Factorisation, Image Classification	

Sustainable Personalisation and Explainability in Dyadic Data Systems	Ti
Procedia Computer Science, 207 (2022) 1017-1026 https://doi.org/10.1016/j.procs.2022.09.157	Jo
Jorge Paz-Ruza and Carlos Eiras-Franco and Bertha Guijarro-Berdiñas and Amparo Alonso-Betanzos	Au

xAI.		2022-084
Keywords	Explanation interface, Human–Computer Interaction	

Chapter 6 - AI as an explanation agent and user-centered explanation interfaces for trust in AI-based systems	Ti
Human-Centered Artificial Intelligence, Academic Press (2022) 91-102 https://doi.org/10.1016/B978-0-323-85648-5.00014-1	Jo
Sangwon Lee	Au

xAI.	Airline	2022-085
Keywords	Probabilistic graphical models, Hidden Markov models, Intelligent systems, Expert systems	

Relational dynamic Bayesian network modeling for uncertainty quantification and propagation in airline disruption management	Ti
Engineering Applications of Artificial Intelligence, 112 (2022) 104846 https://doi.org/10.1016/j.engappai.2022.104846	Jo
Kolawole Ogunsina and Marios Papamichalis and Daniel DeLaurentis	Au

xAI.	Urban heat island	2022-086
Keywords	Multiple linear regression, Random forest, Machine learning, SHAP values,	

Fine-scale modeling of the urban heat island: A comparison of multiple linear regression and random forest approaches	Ti
Science of The Total Environment, 815 (2022) 152836 https://doi.org/10.1016/j.scitotenv.2021.152836	Jo
Gabriel Yoshikazu Oukawa and Patricia Krecl and Admir Créso Targino	Au

xAI.	Insurance	2022-087
Keywords	Feature selection, GLM, Global surrogate, Segmentation	

When stakes are high: Balancing accuracy and transparency with Model-Agnostic Interpretable Data-driven suRRogates	Ti
Expert Systems with Applications, 202 (2022) 117230 https://doi.org/10.1016/j.eswa.2022.117230	Jo
Roel Henckaerts and Katrien Antonio and Marie-Pier Côté	Au

xAI.	Textile Fabrics	2022-088
Keywords	Machine Downtime, Yarn Breaks, Regression, Automated Machine Learning	

Predicting Yarn Breaks in Textile Fabrics: A Machine Learning Approach	Ti
Procedia Computer Science, 207 (2022) 2301-2310 https://doi.org/10.1016/j.procs.2022.09.289	Jo
João Azevedo and Rui Ribeiro and Luís Miguel Matos and Rui Sousa and João Paulo Silva and André Pilastrri and Paulo Cortez	Au

xAI.	Duck Curve problem	2022-089
Keywords	LSTM, Attention mechanism, IOT, Smart grid, Renewable energies	

Explainable Artificial Intelligent as a solution approach to the Duck Curve problem	Ti
Procedia Computer Science, 207 (2022) 2747-2756 https://doi.org/10.1016/j.procs.2022.09.333	Jo
Henri Joël Azemena and Ali Ayadi and Ahmed Samet	Au

xAI.	Framework for XAI	2022-090
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Keywords	Understandability, interpretability, trust, category learning, decision aids, surrogate models, decision trees, explanation fidelity, explanatory artefacts
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Towards an Integrated Evaluation Framework for XAI: An Experimental Study	Ti
<i>Procedia Computer Science</i> , 207 (2022) 3884-3893 https://doi.org/10.1016/j.procs.2022.09.450	Jo
Qiyuan Zhang and Mark Hall and Mark Johansen and Vedran Galetic and Jacques Grange and Santiago Quintana-Amate and Alistair Nottle and Dylan M Jones and Phillip L Morgan	Au

xAI.	2022-091
Keywords	Deep learning, Machine learning

Chapter 1 - Are AI models explainable, interpretable, and understandable?	Ti
<i>Human-Centered Artificial Intelligence</i> , Academic Press (2022) 3-16 https://doi.org/10.1016/B978-0-323-85648-5.00003-7	Jo
Jae-Yoon Jung and Donghyun Park	Au

xAI.	2022-092
Keywords	Deep learning, Classification, Data augmentation, Grad-CAM, Score-CAM

Automated quality control of vacuum insulated glazing by convolutional neural network image classification	Ti
<i>Automation in Construction</i> , 135 (2022) 104144 https://doi.org/10.1016/j.autcon.2022.104144	Jo
Henrik Riedel and Sleheddine Mokdad and Isabell Schulz and Cenk Kocer and Philipp L. Rosendahl and Jens Schneider and Michael A. Kraus and Michael Drass	Au

xAI.	2022-093
Keywords	Data science, NBA, Clustering, Regression

Explainable AI techniques with application to NBA gameplay prediction	Ti
<i>Neurocomputing</i> , 483 (2022) 59-71 https://doi.org/10.1016/j.neucom.2022.01.098	Jo
Yuanchen Wang and Weibo Liu and Xiaohui Liu	Au

xAI.	2022-094
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Transfer reinforcement learning via meta-knowledge extraction using auto-pruned decision trees	Ti
<i>Knowledge-Based Systems</i> , 242 (2022) 108221 https://doi.org/10.1016/j.knosys.2022.108221	Jo
Yixing Lan and Xin Xu and Qiang Fang and Yujun Zeng and Xinwang Liu and Xianjian Zhang	Au

xAI.		2022-095
Keywords	Hazard relief analysis, Machine learning (ML), Deep learning (DL)	

Time series sentiment analysis (SA) of relief operations using social media (SM) platform for efficient resource management		Ti
International Journal of Disaster Risk Reduction, 75 (2022) 102979 https://doi.org/10.1016/j.ijdr.2022.102979		Jo
Gurman Bhullar and Aseem Khullar and Apoorva Kumar and Anirudh Sharma and H.S. Pannu and Avleen Malhi		Au

xAI.	Geo-hydrological hazards	2022-096
Keywords	Flooding, Landslides, Disaster management, SHAP	

Explainable step-wise binary classification for the susceptibility assessment of geo-hydrological hazards		Ti
CATENA, 216 (2022) 106379 https://doi.org/10.1016/j.catena.2022.106379		Jo
Ömer Ekmekcioğlu and Kerim Koc		Au

xAI.		2022-097
Keywords	Black box, Machine learning, Pragmatic explanation	

Chapter 8 - Designing a pragmatic explanation for the XAI system based on the user's context and background knowledge		Ti
Human-Centered Artificial Intelligence, Academic Press (2022)117-125 https://doi.org/10.1016/B978-0-323-85648-5.00012-8		Jo
Sangyeon Kim and Insil Huh and Yujin Park and Sangwon Lee		Au

xAI.	Airplane landings	2022-098
Keywords	Air transportation, Machine learning, Runway friction, Boosting, Snow/ice contamination	

A decision support system for safer airplane landings: Predicting runway conditions using XGBoost and explainable AI		Ti
Cold Regions Science and Technology, 199(2022) 103556 https://doi.org/10.1016/j.coldregions.2022.103556		Jo
Alise Danielle Midtfjord and Riccardo De Bin and Arne Bang Huseby		Au

xAI.		2022-099
Keywords	Multi-objective evolutionary algorithm, Gene expression patterns, Obesity	

Mining high average-utility sequential rules to identify high-utility gene expression sequences in longitudinal human studies		Ti
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Expert Systems with Applications, 193 (2022)116411 https://doi.org/10.1016/j.eswa.2021.116411	Jo
Alberto Segura-Delgado and Augusto Anguita-Ruiz and Rafael Alcalá and Jesús Alcalá-Fdez	Au

xAI.	2022-100
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Implementing local-explainability in Gradient Boosting Trees: Feature Contribution	Ti
Information Sciences, 589 (2022) 199-212 https://doi.org/10.1016/j.ins.2021.12.111	Jo
Ángel Delgado-Panadero and Beatriz Hernández-Lorca and María Teresa García-Ordás and José Alberto Benítez-Andrades	Au

xAI.	2022-101
Keywords	Reverse time attention mechanism, Decay mechanism, Recurrent neural network, Cyanobacteria

Simultaneous feature engineering and interpretation: Forecasting harmful algal blooms using a deep learning approach	Ti
Water Research, 215 (2022) 118289 https://doi.org/10.1016/j.watres.2022.118289	Jo
TaeHo Kim and Jihoon Shin and DoYeon Lee and YoungWoo Kim and Eunhye Na and Jong-hwan Park and Chaehong Lim and YoonKyung Cha	Au

xAI.	Ultrasonics	2022-102
Keywords	Inspection, Quality assurance, Ultrasonic	

Explainable AI-infused ultrasonic inspection for internal defect detection	Ti
CIRP Annals, 71 (2022) 449-452 https://doi.org/10.1016/j.cirp.2022.04.036	Jo
Adithyaa Karthikeyan and Akash Tiwari and Yuhao Zhong and Satish T.S. Bukkapatnam	Au

xAI.	2022-103
Keywords	Human-AI interaction

The effects of domain knowledge on trust in explainable AI and task performance: A case of peer-to-peer lending	Ti
International Journal of Human-Computer Studies, 162 (2022) 102792 https://doi.org/10.1016/j.ijhcs.2022.102792	Jo
Murat Dikmen and Catherine Burns	Au

xAI.	2022-104
Keywords	Industry 4.0, semantic web, deep learning, predictive maintenance

Explainable AI for Industry 4.0: Semantic Representation of Deep Learning Models	Ti
Procedia Computer Science, 200 (2022) 216-226 https://doi.org/10.1016/j.procs.2022.01.220	Jo
Vagan Terziyan and Oleksandra Vitko	Au

xAI.	Water quality	2022-105
Keywords	Algal management, XGBoost	

Interpretation of ensemble learning to predict water quality using explainable artificial intelligence	Ti
Science of The Total Environment, 832 (2022) 155070 https://doi.org/10.1016/j.scitotenv.2022.155070	Jo
Jungsu Park and Woo Hyoung Lee and Keug Tae Kim and Cheol Young Park and Sanghun Lee and Tae-Young Heo	Au

xAI.	Med	2022-106
Keywords	Data-driven prediction	

Data-driven multiscale modelling and analysis of COVID-19 spatiotemporal evolution using explainable AI	Ti
Sustainable Cities and Society, 80 (2022) 103772 https://doi.org/10.1016/j.scs.2022.103772	Jo
Alvin Wei Ze Chew, Limao Zhang	Au

xAI.	Crypto asset	2022-107
Keywords	Machine learning, Shapley values, Robo-advisory	

Explainable artificial intelligence for crypto asset allocation	Ti
Finance Research Letters, 47 (2022) 102941 https://doi.org/10.1016/j.frl.2022.102941	Jo
Golnoosh Babaei and Paolo Giudici and Emanuela Raffinetti	Au

xAI.	Bitcoin	2022-108
Keywords	Energy consumption	

Taming energy and electronic waste generation in bitcoin mining: Insights from Facebook prophet and deep neural network	Ti
Technological Forecasting and Social Change, 178 (2022) 121584 https://doi.org/10.1016/j.techfore.2022.121584	Jo
Rabin K. Jana and Indranil Ghosh and Martin W. Wallin	Au

xAI.	Env PM2.5	2022-109
Keywords	RNN, PM, Air-quality forecast, Community multiscale air quality (CMAQ)	

Untangling the contribution of input parameters to an artificial intelligence PM2.5 forecast model using the layer-wise relevance propagation method	Ti
Atmospheric Environment, 276 (2022) 119034 https://doi.org/10.1016/j.atmosenv.2022.119034	Jo
Dasol Kim and Chang-Hoi Ho and Ingyu Park and Jinwon Kim and Lim-Seok Chang and Min-Hyeok Choi	Au

xAI.	Fake news	2022-110
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A quantitative argumentation-based Automated eXplainable Decision System for fake news detection on social media	Ti
Knowledge-Based Systems, 242 (2022)108378 https://doi.org/10.1016/j.knosys.2022.108378	Jo
Haixiao Chi and Beishui Liao	Au

xAI.		2022-111
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Special issue on Explainable Artificial Intelligence (XAI)	Ti
Artificial Intelligence, 307 (2022) 103705 https://doi.org/10.1016/j.artint.2022.103705	Jo
Tim Miller and Robert Hoffman and Ofra Amir and Andreas Holzinger	Au

xAI.	Remote Drones	2022-112
Keywords	Holonc,Decentralized approach	

A Decentralized Multilevel Agent Based Explainable Model for Fleet Management of Remote Drones	Ti
Procedia Computer Science, 203 (2022) 181-188 https://doi.org/10.1016/j.procs.2022.07.025	Jo
Igor Tchappi and Jean Etienne Ndamlabin Mboula and Amro Najjar and Yazan Mualla and Stéphane Galland	Au

xAI.	Intrusion detection	2022-113
Keywords	Multi-class classification, Deep learning, Attention, Multi-output learning	

ROULETTE: A neural attention multi-output model for explainable Network Intrusion Detection	Ti
Expert Systems with Applications, 201 (2022) 117144 https://doi.org/10.1016/j.eswa.2022.117144	Jo
Giuseppina Andresini and Annalisa Appice and Francesco Paolo Caforio and Donato Malerba and Gennaro Vessio	Au

xAI.	Power systems	2022-114
Keywords	Neural network, Deep-learning	

Explainable Artificial Intelligence (XAI) techniques for energy and power systems: Review, challenges and opportunities	Ti
Energy and AI, 9 (2022) 100169 https://doi.org/10.1016/j.egyai.2022.100169	Jo
R. Machlev and L. Heistrene and M. Perl and K.Y. Levy and J. Belikov and S. Mannor and Y. Levron	Au

xAI.		2022-115
Keywords	AI safety, Interpretability, Prediction attribution	

Believe the HiPe: Hierarchical perturbation for fast, robust, and model-agnostic saliency mapping	Ti
Pattern Recognition, 129 (2022)108743 https://doi.org/10.1016/j.patcog.2022.108743	Jo
Jessica Cooper and Ognjen Arandjelović and David J Harrison	Au

xAI.	Aluminum alloys	2022-116
Keywords	7xxx aluminum alloys, Hyperparameter tuning, A.I.-based recommendation algorithm	

High strength aluminum alloys design via explainable artificial intelligence	Ti
Journal of Alloys and Compounds, 903 (2022)163828 https://doi.org/10.1016/j.jallcom.2022.163828	Jo
Seobin Park and Saif Haider Kayani and Kwangjun Euh and Eunhyeok Seo and Hayeol Kim and Sangeun Park and Bishnu Nand Yadav and Seong Jin Park and Hyokyung Sung and Im Doo Jung	Au

xAI.	Air traffic	2022-117
Keywords	Genetic Algorithm	

Usage of more transparent and explainable conflict resolution algorithm: air traffic controller feedback	Ti
Transportation Research Procedia, 66(2022)270-278 https://doi.org/10.1016/j.trpro.2022.12.027	Jo
Christophe Hurter and Augustin Degas and Arnaud Guibert and Nicolas Durand and Ana Ferreira and Nicola Cavagnetto and Mir Riyanul Islam and Shaibal Barua and Mobyen Uddin Ahmed and Shahina Begum and Stefano Bonelli and Giulia Cartocci and Gianluca Di Flumeri and Gianluca Borghini and Fabio Babiloni and Pietro Aricó	Au

xAI.	Self-explanatory AI	2022-118
Keywords	Deep neural networks, Transfer learning, Category learning	

XAI & I: Self-explanatory AI facilitating mutual understanding between AI and human experts	Ti
Procedia Computer Science, 207 (2022)3600-3607 https://doi.org/10.1016/j.procs.2022.09.419	Jo
Jacques A. Grange and Henrijs Princis and Theodor R.W. Kozłowski and Aissa Amadou-Dioffo and Jing Wu and Yulia A. Hicks and Mark K. Johansen	Au

xAI.	Desalination	2022-119
Keywords	Deep Learning, Water management, Water treatment, LIME	

Deep Learning model and Classification Explainability of Renewable energy-driven Membrane Desalination System using Evaporative Cooler	Ti
Alexandria Engineering Journal, 61 (2022) 10007-10024 https://doi.org/10.1016/j.aej.2022.03.050	Jo
Hanaa Salem and Ibrahim M. El-Hasnony and A.E. Kabeel and Emad M.S. El-Said and Omar M. Elzeki	Au

xAI.		2022-120
Keywords	AdaBoost, Bagging, Boosting, Ensemble learning, Explainable machine learning, Interpretable machine learning, Tree ensembles	

Chapter 4 - Explanation of ensemble models	Ti
Human-Centered Artificial Intelligence, Academic Press (2022) 51-72 https://doi.org/10.1016/B978-0-323-85648-5.00011-6	Jo
Josue Obregon and Jae-Yoon Jung	Au

xAI.		2022-121
Keywords	Automated area method, Interval type-2 fuzzy sets, Jaccard similarity measure, Shoelace algorithm, Similarity	

On computing the similarity of trapezoidal fuzzy sets using an Automated Area Method	Ti
Information Sciences, 589(2022) 716-737 https://doi.org/10.1016/j.ins.2021.12.057	Jo
Jerry M. Mendel	Au

xAI.	DARPA	2022-122
Keywords	Posthoc approaches, Prediction	

Chapter 16 - Designing XAI from policy perspectives	Ti
Human-Centered Artificial Intelligence, Academic Press (2022) 241-250 https://doi.org/10.1016/B978-0-323-85648-5.00004-9	Jo
Taehyun Ha	Au

xAI.	Ontologies	2022-123
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Combining an explainable model based on ontologies with an explanation interface to classify images	Ti
Procedia Computer Science, 207 (2022) 2395-2403 https://doi.org/10.1016/j.procs.2022.09.298	Jo

Matthieu Bellucci and Nicolas Delestre and Nicolas Malandain and Cecilia Zanni-Merk	Au
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xAI.		2022-124
Keywords	CNN, Adversarial attack, Eye-tracker	

Visual explanation of black-box model: Similarity Difference and Uniqueness (SIDU) method		Ti
Pattern Recognition, 127 (2022) 108604 https://doi.org/10.1016/j.patcog.2022.108604		Jo
Satya M. Muddamsetty and Mohammad N.S. Jahromi and Andreea E. Ciontos and Laura M. Fenoy and Thomas B. Moeslund		Au

xAI.	Energy performance certificate	2022-125
Keywords	ANN	

Explainable artificial intelligence for building energy performance certificate labelling classification		Ti
Journal of Cleaner Production, 355 (2022) 131626 https://doi.org/10.1016/j.jclepro.2022.131626		Jo
Thamsanqa Tsoka and Xianming Ye and YangQuan Chen and Dunwei Gong and Xiaohua Xia		Au

xAI.	Economis decision-making prediction	2022-126
Keywords	LSTM, Deep learning, Interpretable machine learning, Economic prediction	

Interpretable deep learning LSTM model for intelligent economic decision-making		Ti
Knowledge-Based Systems, 248 (2022) 108907 https://doi.org/10.1016/j.knosys.2022.108907		Jo
Sangjin Park and Jae-Suk Yang		Au

xAI.		2022-127
Keywords	Local interpretability, Model-agnostic interpretability, Monotonicity, Trendability, Prognosability	

Relation between prognostics predictor evaluation metrics and local interpretability SHAP values		Ti
Artificial Intelligence, 306 (2022) 103667 https://doi.org/10.1016/j.artint.2022.103667		Jo
Marcia L. Baptista and Kai Goebel and Elsa M.P. Henriques		Au

xAI.		2022-128
Keywords	Intelligent maintenance systems, Industry 5.0, Predictive maintenance, Operator 5.0	

XAI Sustainable Human in the Loop Maintenance	Ti
IFAC-PapersOnLine, 55 (2022) 67-72 https://doi.org/10.1016/j.ifacol.2022.09.185	Jo
Chris Turner and Okechukwu Okorie and John Oyekan	Au

xAI.	Homicide	2022-129
Keywords	Murder Accountability Project, Algorithmic criminology	

Explainable machine learning for predicting homicide clearance in the United States	Ti
Journal of Criminal Justice, 79 (2022) 101898 https://doi.org/10.1016/j.jcrimjus.2022.101898	Jo
Gian Maria Campedelli	Au

xAI.		2022-130
Keywords	Human-centered AI, public procurement, Ethical AI, Responsible AI, developing countries	

Human-centered artificial intelligence for the public sector: The gate keeping role of the public procurement professional	Ti
Procedia Computer Science, 200 (2022)1084-1092 https://doi.org/10.1016/j.procs.2022.01.308	Jo
Pross Oluka Nagitta and Godfrey Mugurusi and Peter Adoko Obicci and Emmanuel Awuor	Au

xAI.	Grapevine Classification	2022-131
Keywords	CNN, grad-cam, xception	

Analyzing the Fine Tuning's impact in Grapevine Classification	Ti
Procedia Computer Science, 196 (2022) 364-370 https://doi.org/10.1016/j.procs.2021.12.025	Jo
Gabriel S. Carneiro and Ana Ferreira and Raul Morais and Joaquim J. Sousa and António Cunha	Au

xAI.		2022-132
Keywords	Natural Language Understanding (NLU), Spoken Language Understanding (SLU), End-to-end (E2E) learning, Smart home	

End-to-End Spoken Language Understanding: Performance analyses of a voice command task in a low resource setting	Ti
Computer Speech & Language, 75 (2022)101369 https://doi.org/10.1016/j.csl.2022.101369	Jo
Thierry Desot and François Portet and Michel Vacher	Au

xAI.	Smart education systems	2022-133
Keywords	Internet of behaviour (IoB), Smart education, future AI-based education, Smart cities education, adaptive learning	

Internet of Behaviour (IoB)-based AI models for personalized smart education systems	Ti
Procedia Computer Science, 203 (2022)103-110 https://doi.org/10.1016/j.procs.2022.07.015	Jo
Ossama H. Embarak	Au

xAI.	2022-134
Keywords	Machine reading comprehension, Natural language processing

ExpMRC: explainability evaluation for machine reading comprehension	Ti
Heliyon, 8 (2022)e09290 https://doi.org/10.1016/j.heliyon.2022.e09290	Jo
Yiming Cui and Ting Liu and Wanxiang Che and Zhigang Chen and Shijin Wang	Au

xAI.	2022-135
Keywords	Dynamic decision-making environments, Data labelling

Integrating human knowledge into artificial intelligence for complex and ill-structured problems: Informed artificial intelligence	Ti
International Journal of Information Management, 64 (2022) 102479 https://doi.org/10.1016/j.ijinfomgt.2022.102479	Jo
Marina Johnson and Abdullah Albizri and Antoine Harfouche and Samuel Fosso-Wamba	Au

xAI.	2022-136
Keywords	Discrete event simulation (DES), Industry 4.0, Industry 5.0, Human in the loop, Agent based simulation, Extended reality (XR)

Next generation DES simulation: A research agenda for human centric manufacturing systems	Ti
Journal of Industrial Information Integration, 28 (2022) 100354 https://doi.org/10.1016/j.jii.2022.100354	Jo
Chris J Turner and Wolfgang Garn	Au

xAI.	2022-137
Keywords	Feature interaction, Classification, Regression,

Predictive case-based feature importance and interaction	Ti
Information Sciences, 593 (2022) 155-176 https://doi.org/10.1016/j.ins.2022.02.003	Jo
Sejong Oh	Au

xAI.	Physics, Atmosphere	2022-138
Keywords	SHAP, Permutation feature importance, Atmospheric prediction	

Importance of 3D convolution and physics on a deep learning coastal fog model	Ti
Environmental Modelling & Software, 154 (2022) 105424 https://doi.org/10.1016/j.envsoft.2022.105424	Jo
Hamid Kamangir and Evan Krell and Waylon Collins and Scott A. King and Philippe Tissot	Au

xAI.	2022-139
Keywords	Carsharing, User behavior, Trip distance, Machine learning, Feature importance

Revealing influences on carsharing users' trip distance in small urban areas	Ti
Transportation Research Part D: Transport and Environment, 105 (2022) 103252 https://doi.org/10.1016/j.trd.2022.103252	Jo
Felix Baumgarte and Robert Keller and Felix Röhrich and Lynne Valett and Daniela Zinsbacher	Au

xAI.	2022-140
Keywords	Machine learning, Model agnostic explanations, Usability study, User experience

A novel model usability evaluation framework (MUsE) for explainable artificial intelligence	Ti
Information Fusion, 81 (2022)143-153 https://doi.org/10.1016/j.inffus.2021.11.017	Jo
Jürgen Dieber and Sabrina Kirrane	Au

xAI.	2022-141
Keywords	Model-intrinsic approach, Knowledge graph attention network

An explainable recommendation framework based on an improved knowledge graphattention network with massive volumes of side information	Ti
Knowledge-Based Systems, 239 (2022)107970 https://doi.org/10.1016/j.knosys.2021.107970	Jo
Ryotaro Shimizu and Megumi Matsutani and Masayuki Goto	Au

xAI.	LVQ	2022-142
Keywords	Learning vector quantization, Counterfactual metric changes	

Efficient computation of counterfactual explanations and counterfactual metrics of prototype-based classifiers	Ti
Neurocomputing, 470 (2022) 304-317 https://doi.org/10.1016/j.neucom.2021.04.129	Jo
André Artelt and Barbara Hammer	Au

xAI.		2022-143
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Counterfactuals and causability in explainable artificial intelligence: Theory, algorithms, and applications		Ti
Information Fusion, 81 (2022) 59-83 https://doi.org/10.1016/j.inffus.2021.11.003		Jo
Yu-Liang Chou and Catarina Moreira and Peter Bruza and Chun Ouyang and Joaquim Jorge		Au

xAI.	Cybersecurity	2022-144
Keywords	LSTM Autoencoder, Gradient SHAP	

Explainable Anomaly Detection for Industrial Control System Cybersecurity		Ti
IFAC-PapersOnLine, 55(2022) 1183-1188 https://doi.org/10.1016/j.ifacol.2022.09.550		Jo
Do Thu Ha and Nguyen Xuan Hoang and Nguyen Viet Hoang and Nguyen Huu Du and Truong Thu Huong and Kim Phuc Tran		Au

xAI.	Building energy	2022-145
Keywords	Energy quantification methods, Energy performance certificates, Machine learning algorithms	

Explainable long-term building energy consumption prediction using QLattice		Ti
Applied Energy, 308 (2022) 118300 https://doi.org/10.1016/j.apenergy.2021.118300		Jo
Simon Wenninger and Can Kaymakci and Christian Wiethe		Au

xAI.	PM2.5-benzo[a]pyrene	2022-146
Keywords	Indoor air pollution, Outdoor air pollution	

The PM2.5-bound polycyclic aromatic hydrocarbon behavior in indoor and outdoor environments, part II: Explainable prediction of benzo[a]pyrene levels		Ti
Chemosphere, 289 (2022) 133154 https://doi.org/10.1016/j.chemosphere.2021.133154		Jo
Andreja Stojić and Gordana Jovanović and Svetlana Stanišić and Snježana Herceg Romanić and Andrej Šoštarić and Vladimir Udovičić and Mirjana Perišić and Tijana Milićević		Au

xAI.		2022-147
Keywords	Decision tree, vibration control, input shaping	

Generalized Input Preshaping Vibration Control Approach for Multi-Link Flexible Manipulators using Machine Intelligence		Ti
Mechatronics, 82 (2022) 102735 https://doi.org/10.1016/j.mechatronics.2021.102735		Jo

Mehmet Mert İlman and Şahin Yavuz and Pelin Yildirim Taser	Au
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xAI.	Fault detection	2022-148
Keywords	Anomaly detection, Condition monitoring	

An explainable artificial intelligence approach for unsupervised fault detection and diagnosis in rotating machinery	Ti
Mechanical Systems and Signal Processing, 163 (2022) 108105 https://doi.org/10.1016/j.ymsp.2021.108105	Jo
Lucas C. Brito and Gian Antonio Susto and Jorge N. Brito and Marcus A.V. Duarte	Au

xAI.	Nanodiamond	2022-149
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Explainable prediction of N-V-related defects in nanodiamond using neural networks and Shapley values	Ti
Cell Reports Physical Science, 3 (2022) 100696 https://doi.org/10.1016/j.xcrp.2021.100696	Jo
Amanda S. Barnard	Au

xAI.	Supplier-buyer dyads	2022-150
Keywords	Collaborative cost management, Purchasing, Machine learning, Decision support system, Manufacturing	

A multi-perspective approach to support collaborative cost management in supplier-buyer dyads	Ti
International Journal of Production Economics, 245 (2022) 108380 https://doi.org/10.1016/j.ijpe.2021.108380	Jo
Frank Bodendorf and Qiao Xie and Philipp Merkl and Jörg Franke	Au

xAI.		2022-151
Keywords	Compositionality, Part-based object detection and classification	

EXplainable Neural-Symbolic Learning (X-NeSyL) methodology to fuse deep learning representations with expert knowledge graphs: The MonuMAI cultural heritage use case	Ti
Information Fusion, 79 (2022) 58-83 https://doi.org/10.1016/j.inffus.2021.09.022	Jo
Natalia Díaz-Rodríguez and Alberto Lamas and Jules Sanchez and Gianni Franchi and Ivan Donadello and Siham Tabik and David Filliat and Policarpo Cruz and Rosana Montes and Francisco Herrera	Au

xAI.	CLEVR-XAI	2022-152
Keywords	Evaluation, Benchmark, CNN, Visual question answering, Computer vision, Relation network	

CLEVR-XAI: A benchmark dataset for the ground truth evaluation of neural network explanations	Ti
Information Fusion, 81 (2022) 14-40 https://doi.org/10.1016/j.inffus.2021.11.008	Jo
Leila Arras and Ahmed Osman and Wojciech Samek	Au

xAI.	Agricultural data	2022-153
Keywords	Interpretable machine learning, Crop yield, No-tillage	

Explainable artificial intelligence and interpretable machine learning for agricultural data analysis	Ti
Artificial Intelligence in Agriculture, 6 (2022) 257-265 https://doi.org/10.1016/j.aiaa.2022.11.003	Jo
Masahiro Ryo	Au

xAI.	Fault detection	2022-154
Keywords	Deep learning, Root cause diagnosis, Autoencoder	

Towards robust and understandable fault detection and diagnosis using denoising sparse autoencoder and smooth integrated gradients	Ti
ISA Transactions, 125 (2022) 371-383 https://doi.org/10.1016/j.isatra.2021.06.005	Jo
Peng Peng and Yi Zhang and Hongwei Wang and Heming Zhang	Au

xAI.	Hydrocyclone	2022-155
Keywords	Mineral Processing, Online Particle Size Analyzer, Explainability Analysis, Transfer Learning, GoogLeNet	

Explaining Convolutional Neural Network Predictions of Particle Size in the Underflow of a Hydrocyclone	Ti
IFAC-PapersOnLine, 55 (2022) 19-24 https://doi.org/10.1016/j.ifacol.2022.09.237	Jo
Jacques Olivier and Chris Aldrich and Xiu Liu	Au

xAI.		2022-156
Keywords	Human-computer interaction, Multi-agent systems, Empirical user studies, Statistical testing	

The quest of parsimonious XAI: A human-agent architecture for explanation formulation	Ti
Artificial Intelligence, 302 (2022) 103573 https://doi.org/10.1016/j.artint.2021.103573	Jo
Yazan Mualla and Igor Tchappi and Timotheus Kampik and Amro Najjar and Davide Calvaresi and Abdeljalil Abbas-Turki and Stéphane Galland and Christophe Nicolle	Au

xAI.	Clever Hans	2022-157
Keywords	Featureunlearning, Spectral Relevance Analysis, Class Artifact Compensation	

Finding and removing Clever Hans: Using explanation methods to debug and improve deep models	Ti
Information Fusion, 77(2022)261-295 https://doi.org/10.1016/j.inffus.2021.07.015	Jo
Christopher J. Anders and Leander Weber and David Neumann and Wojciech Samek and Klaus-Robert Müller and Sebastian Lapuschkin	Au

xAI.		2022-158
Keywords	Turbulence modeling, Direct numerical simulation, Transcritical combustion, Random forests, Machine learning,	

Interpretable data-driven methods for subgrid-scale closure in LES for transcritical LOX/GCH4 combustion	Ti
Combustion and Flame, 239 (2022) 111758 https://doi.org/10.1016/j.combustflame.2021.111758	Jo
Wai Tong Chung and Aashwin Ananda Mishra and Matthias Ihme	Au

xAI.	Nuclear power plants	2022-159
Keywords	Abnormal operating conditions, Reliability of Reliable intelligent diagnostic assistant	

A reliable intelligent diagnostic assistant for nuclear power plants using explainable artificial intelligence of GRU-AE, LightGBM and SHAP	Ti
Nuclear Engineering and Technology, 54 (2022) 1271-1287 https://doi.org/10.1016/j.net.2021.10.024	Jo
Ji Hun Park and Hye Seon Jo and Sang Hyun Lee and Sang Won Oh and Man Gyun Na	Au

xAI.	Self-attention activation maps	2022-160
Keywords	Interpretable machine learning, Black-box models, Transparent models, Deep learning,	

Generating self-attention activation maps for visual interpretations of convolutional neural networks	Ti
Neurocomputing, 490 (2022) 206-216 https://doi.org/10.1016/j.neucom.2021.11.084	Jo
Yu Liang and Maozhen Li and Changjun Jiang	Au

xAI.		2022-161
Keywords	Anomaly detection, Outlier interpretation, Interpretability	

Anomaly explanation: A review	Ti
Data & Knowledge Engineering, 137 (2022)101946 https://doi.org/10.1016/j.datak.2021.101946	Jo
Véronne Yepmo and Grégory Smits and Olivier Pivert	Au

xAI.	Supply chain	2022-162
Keywords	Artificial Intelligence (AI), Big data	

Explainability in supply chain operational risk management: A systematic literature review	Ti
Knowledge-Based Systems, 235 (2022) 107587 https://doi.org/10.1016/j.knosys.2021.107587	Jo
Sonia Farhana Nimmy and Omar K. Hussain and Ripon K. Chakraborty and Farookh Khadeer Hussain and Morteza Saberi	Au

xAI.	Electricity price	2022-163
Keywords	Augmented analytics, Automated machine learning, Ensemble models, Time series decomposition, Time series hybrid models	

Framework for collaborative intelligence in forecasting day-ahead electricity price	Ti
Applied Energy, 306 (2022) 118049 https://doi.org/10.1016/j.apenergy.2021.118049	Jo
Sergio Beltrán and Alain Castro and Ion Irizar and Gorka Naveran and Imanol Yeregui	Au

xAI.	Photovoltaic panels	2022-164
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Edge-based Explainable Fault Detection Systems for photovoltaic panels on edge nodes	Ti
Renewable Energy, 185 (2022) 1425-1440 https://doi.org/10.1016/j.renene.2021.10.063	Jo
Seshapalli Sairam and Subathra Seshadhri and Giancarlo Marafioti and Seshadhri Srinivasan and Geir Mathisen and Korkut Bekiroglu	Au

xAI.		2022-165
Keywords	Risk management, Loss given default, Recovery rates	

Explainable models of credit losses	Ti
European Journal of Operational Research, 301 (2022) 386-394 https://doi.org/10.1016/j.ejor.2021.11.009	Jo
João A. Bastos and Sara M. Matos	Au

xAI.		2022-166
Keywords	Intelligent Manufacturing Systems, Machine Learning, Quality Assurance, Maintenance, Fault Detection, Intelligent Manufacturing, Human Centred Automation	

Towards a Comprehensive Visual Quality Inspection for Industry 4.0*	Ti
IFAC-Papers Online, 55 (2022)690-695 https://doi.org/10.1016/j.ifacol.2022.09.486	Jo

Jože M. Rožanec and Patrik Zajec and Elena Trajkova and Beno Šircelj and Bor Brecej and Inna Novalija and Paulien Dam and Blaž Fortuna and Dunja Mladenić	Au
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xAI.	2022-167
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Keywords	Interpretable Machine Learning, Explanatory understanding, Human-like explanations, Contextual and semantic interrogations, Topic modeling
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CaSE: Explaining Text Classifications by Fusion of Local Surrogate Explanation Models with Contextual and Semantic Knowledge	Ti
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Information Fusion, 77 (2022) 184-195 https://doi.org/10.1016/j.inffus.2021.07.014	Jo
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Sebastian Kiefer	Au
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xAI.	Smart manufacturing	2022-168
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Keywords	Knowledge Graph, Demand forecasting, Confidentiality, Privacy
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Knowledge graph-based rich and confidentiality preserving Explainable Artificial Intelligence (XAI)	Ti
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Information Fusion, 81 (2022) 91-102 https://doi.org/10.1016/j.inffus.2021.11.015	Jo
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Jože M. Rožanec and Blaž Fortuna and Dunja Mladenić	Au
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xAI.	Traffic accident	2022-169
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Keywords	Deep learning, Machine learning
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Predicting multiple types of traffic accident severity with explanations: A multi-task deep learning framework	Ti
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Safety Science, 146 (2022) 105522 https://doi.org/10.1016/j.ssci.2021.105522	Jo
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Zekun Yang and Wenping Zhang and Juan Feng	Au
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xAI.	Maritime domain, time series	2022-170
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Keywords	Machine learning, Black-box, Explainability, Interpretability
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Validation of XAI explanations for multivariate time series classification in the maritime domain	Ti
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Journal of Computational Science, 58 (2022) 101539 https://doi.org/10.1016/j.jocs.2021.101539	Jo
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Manjunatha Veerappa and Mathias Anneken and Nadia Burkart and Marco F. Huber	Au
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xAI.	2022-171
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Keywords	Voiding cystourethrogram
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A machine learning-based approach for quantitative grading of vesicoureteral reflux from voiding cystourethrograms: Methods and proof of concept	Ti
Journal of Pediatric Urology, 18 (2022) 78.e1-78.e7 https://doi.org/10.1016/j.jpurol.2021.10.009	Jo
Adree Khondker and Jethro C.C. Kwong and Mandy Rickard and Marta Skreta and Daniel T. Keefe and Armando J. Lorenzo and Lauren Erdman	Au

xAI.	AI in Education	2022-172
Keywords	Open learner models	

Explainable Artificial Intelligence in education	Ti
Computers and Education: Artificial Intelligence, 3 (2022) 100074 https://doi.org/10.1016/j.caeai.2022.100074	Jo
Hassan Khosravi and Simon Buckingham Shum and Guanliang Chen and Cristina Conati and Yi-Shan Tsai and Judy Kay and Simon Knight and Roberto Martinez-Maldonado and Shazia Sadiq and Dragan Gašević	Au

xAI.		2022-173
Keywords	Computational intelligence, Data-driven decision, Socio-tech, Transparency, Accountability, Trust, E-government	

The perils and pitfalls of explainable AI: Strategies for explaining algorithmic decision-making	Ti
Government Information Quarterly, 39 (2022) 101666 https://doi.org/10.1016/j.giq.2021.101666	Jo
Hans de Bruijn and Martijn Warnier and Marijn Janssen	Au

xAI.	Process monitoring	2022-174
Keywords	Deep learning, Shapley value, Tennessee Eastman	

An explainable artificial intelligence based approach for interpretation of fault classification results from deep neural networks	Ti
Chemical Engineering Science, 250 (2022) 117373 https://doi.org/10.1016/j.ces.2021.117373	Jo
Abhijit Bhakte and Venkatesh Pakkiriswamy and Rajagopalan Srinivasan	Au

xAI.	Forensics	2022-175
Keywords	Number of contributors, DNA mixtures, Machine learning, Counterfactual explanations	

Explainable artificial intelligence in forensics: Realistic explanations for number of contributor predictions of DNA profiles	Ti
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Forensic Science International: Genetics, 56 (2022) 102632 https://doi.org/10.1016/j.fsigen.2021.102632	Jo
Marthe S. Veldhuis and Simone Ariëns and Rolf J.F. Ypma and Thomas Abeel and Corina C.G. Benschop	Au

xAI.	Sentiment analysis	2022-176
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Guest Editorial: Explainable artificial intelligence for sentiment analysis	Ti
Knowledge-Based Systems, 238 (2022) 107920 https://doi.org/10.1016/j.knosys.2021.107920	Jo
Erik Cambria and Akshi Kumar and Mahmoud Al-Ayyoub and Newton Howard	Au

xAI.		2022-177
Keywords	Computer science, Human-computer interaction	

CX-ToM: Counterfactual explanations with theory-of-mind for enhancing human trust in image recognition models	Ti
iScience, 25 (2022) 103581 https://doi.org/10.1016/j.isci.2021.103581	Jo
Arjun R. Akula and Keze Wang and Changsong Liu and Sari Saba-Sadiya and Hongjing Lu and Sinisa Todorovic and Joyce Chai and Song-Chun Zhu	Au

xAI.		2022-178
Keywords	Rule-based system, Uncertainty, Belief rule base, Knowledge representation, Information fusion, Explainable AI	

Highly explainable cumulative belief rule-based system with effective rule-base modeling and inference scheme	Ti
Knowledge-Based Systems, 240 (2022) 107805 https://doi.org/10.1016/j.knosys.2021.107805	Jo
Long-Hao Yang and Jun Liu and Fei-Fei Ye and Ying-Ming Wang and Chris Nugent and Hui Wang and Luis Martínez	Au

xAI.	Glaucoma	2022-179
Keywords	Glaucoma, Class activation mapping, Image processing	

Explainable framework for Glaucoma diagnosis by image processing and convolutional neural network synergy: Analysis with doctor evaluation	Ti
Future Generation Computer Systems, 129 (2022) 152-169 https://doi.org/10.1016/j.future.2021.11.018	Jo
Omer Deperlioglu and Utku Kose and Deepak Gupta and Ashish Khanna and Fabio Giampaolo and Giancarlo Fortino	Au

xAI.		2022-180
Keywords	Asymmetric input constraints, Adaptive dynamic programming	

Event-triggered constrained control using explainable global dual heuristic programming for nonlinear discrete-time systems	Ti
Neurocomputing, 468 (2022) 452-463 https://doi.org/10.1016/j.neucom.2021.10.046	Jo
Bo Sun and Erik-Jan van Kampen	Au

xAI.	Robot vision	2022-181
Keywords	Deep networks, Layer-wise learning, Kinematic control, XAI	

An analytic layer-wise deep learning framework with applications to robotics	Ti
Automatica, 135 (2022) 110007 https://doi.org/10.1016/j.automatica.2021.110007	Jo
Huu-Thiet Nguyen and Chien Chern Cheah and Kar-Ann Toh	Au

xAI.		2022-182
Keywords	Post-hoc explainability	

ContrXT: Generating contrastive explanations from any text classifier	Ti
Information Fusion, 81 (2022) 103-115 https://doi.org/10.1016/j.inffus.2021.11.016	Jo
Lorenzo Malandri and Fabio Mercorio and Mario Mezzanica and Navid Nobani and Andrea Seveso	Au

xAI.	Visual xAI	2022-183
Keywords	Interpretable NNs, Black-box models	

A survey of visual analytics for Explainable Artificial Intelligence methods	Ti
Computers & Graphics, 102 (2022) 502-520 https://doi.org/10.1016/j.cag.2021.09.002	Jo
Gulsum Alicioglu and Bo Sun	Au

xAI.	Rule extraction , anomaly detection	2022-184
Keywords	Metrics	

Rule extraction in unsupervised anomaly detection for model explainability: Application to OneClass SVM	Ti
Expert Systems with Applications, 189 (2022) 116100 https://doi.org/10.1016/j.eswa.2021.116100	Jo
Alberto Barbado and Óscar Corcho and Richard Benjamins	Au

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XAI.		2021-001
Keywords	Genetic algorithms, Nature-inspired	

A class-specific metaheuristic technique for explainable relevant feature selection		Ti
Machine Learning with Applications, 6 (2021) 100142 https://doi.org/10.1016/j.mlwa.2021.100142		Jo
Chinedu Pascal Ezenkwu and Uduak Idio Akpan and Bliss Utibe-Abasi Stephen		Au

XAI.		2021-002
Keywords	Clustering, Machine learning	

CASTLE: Cluster-aided space transformation for local explanations		Ti
Expert Systems with Applications, 179 (2021)115045 https://doi.org/10.1016/j.eswa.2021.115045		Jo
Valerio La Gatta and Vincenzo Moscato and Marco Postiglione and Giancarlo Sperli		Au

XAI.		2021-003
Keywords	Multi-agent systems, relational model, autonomic computing	

IEC 61499 Device Management Model through the lenses of RMAS		Ti
Procedia Computer Science, 160 (2021) 656-665 https://doi.org/10.1016/j.procs.2021.01.288		Jo
Andrea Bonci and Sauro Longhi and Massimiliano Pirani		Au

XAI.	Graph NNs	2021-004
Keywords	, Graph embedding, Node representation learning, Graph topological features	

Exploring the representational power of graph autoencoder		Ti
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Neurocomputing, 457 (2021) 225-241 https://doi.org/10.1016/j.neucom.2021.06.034	Jo
Maroun Haddad and Mohamed Bouguessa	Au

XAI.	Transportation infrastructures	2021-005
Keywords	Machine learning, Metaheuristics, Earthworks, Soil improvement, Slope stability	

Predictive and prescriptive analytics in transportation geotechnics : Three case studies	Ti
Transportation Engineering, 5 (2021) 100074 https://doi.org/10.1016/j.treng.2021.100074	Jo
Joaquim Tinoco and Manuel Parente and António Gomes Correia and Paulo Cortez and David Toll	Au

XAI.	Industrial internal security	2021-006
Keywords	Industrial insider, Insider threat, Fitness for duty, Security evaluation, Deep learning, Two-dimensional CNN	

Explainable artificial intelligence to evaluate industrial internal security using EEG signals in IoT framework	Ti
Ad Hoc Networks, 123 (2021) 102641 https://doi.org/10.1016/j.adhoc.2021.102641	Jo
Ahmed Y. Al Hammadi and Chan Yeob Yeun and Ernesto Damiani and Paul D. Yoo and Jiankun Hu and Hyun Ku Yeun and Man-Sung Yim	Au

XAI.	Twitter	2021-007
Keywords	Natural language processing, Deep learning	

Analysis of sentiment in tweets addressed to a single domain-specific Twitter account: Comparison of model performance and explainability of predictions	Ti
Expert Systems with Applications, 186 (2021)115771 https://doi.org/10.1016/j.eswa.2021.115771	Jo
Krzysztof Fiok and Waldemar Karwowski and Edgar Gutierrez and Maciej Wilamowski	Au

XAI.	Steel beam	2021-008
Keywords	Stability-fit compensation index, LIME, SHAP	

Stable and explainable deep learning damage prediction for prismatic cantilever steel beam	Ti
Computers in Industry, 125 (2021) 103359 https://doi.org/10.1016/j.compind.2020.103359	Jo
Darian M. Onchis and Gilbert-Rainer Gillich	Au

XAI.	Rock properties	2021-009
Keywords	Shap, Xgboost, Durability, Machine learning	

Prediction of uniaxial compressive strength and modulus of elasticity for Travertine samples using an explainable artificial intelligence		Ti
Results in Geophysical Sciences, 8 (2021) 100034 https://doi.org/10.1016/j.ringps.2021.100034		Jo
H. Nasiri and A. Homafar and S. Chehreh Chelgani		Au

XAI.	Urban metabolism, Transportation energy use	2021-010
Keywords	Interpretable machine learning, LIME	

Peeking inside the black-box: Explainable machine learning applied to household transportation energy consumption		Ti
Computers, Environment and Urban Systems, 88 (2021) 101647 https://doi.org/10.1016/j.compenvurbsys.2021.101647		Jo
Shideh Shams Amiri and Sam Mottahedi and Earl Rusty Lee and Simi Hoque		Au

XAI.	Vehicle platooning	2021-011
Keywords	Vehicle platooning, Cyber attacks, Collision avoidance	

Design of countermeasure to packet falsification in vehicle platooning by explainable artificial intelligence		Ti
Computer Communications, 179 (2021) 166-174 https://doi.org/10.1016/j.comcom.2021.06.026		Jo
M. Mongelli		Au

XAI.	Anomaly detection	2021-012
Keywords	Explainable black-box models, Autoencoder, Shapley values,	

Explaining anomalies detected by autoencoders using Shapley Additive Explanations		Ti
Expert Systems with Applications, 186 (2021) 115736 https://doi.org/10.1016/j.eswa.2021.115736		Jo
Liat Antwarg and Ronnie Mindlin Miller and Bracha Shapira and Lior Rokach		Au

XAI.	Masonry	2021-013
Keywords	Fundamental period, Machine learning, Random forest, XGBoost, kNN, Neural network, SHAP	

Time period estimation of masonry infilled RC frames using machine learning techniques	Ti
Structures, 34 (2021) 1560-1566 https://doi.org/10.1016/j.istruc.2021.08.088	Jo
Surendra Nadh Somala and Karthika Karthikeyan and Sujith Mangalathu	Au

XAI.	Power grid	2021-014
Keywords	RoCoF, nadir, stability, power system, machine learning	

Revealing drivers and risks for power grid frequency stability with explainable AI	Ti
Patterns, 2 (2021) 100365 https://doi.org/10.1016/j.patter.2021.100365	Jo
Johannes Kruse and Benjamin Schäfer and Dirk Witthaut	Au

XAI.	Function of explanations	2021-015
Keywords	Automated decisions, GDPR	

The dual function of explanations: Why it is useful to compute explanations	Ti
Computer Law & Security Review, 41 (2021) 105527 https://doi.org/10.1016/j.clsr.2020.105527	Jo
Niko Tsakalakis and Sophie Stalla-Bourdillon and Laura Carmichael and Trung Dong Huynh and Luc Moreau and Ayah Helal	Au

XAI.	Watersheds	2021-016
Keywords	Cerrado, Data-driven, Regional hydrological model	

Addressing hydrological modeling in watersheds under land cover change with deep learning	Ti
Advances in Water Resources, 154 (2021) 103965 https://doi.org/10.1016/j.advwatres.2021.103965	Jo
Daniel Althoff and Lineu Neiva Rodrigues and Demetrius David da Silva	Au

XAI.		2021-017
Keywords	Case-based reasoning, Computer vision, Natural Language Processing	

Explaining Deep Learning using examples: Optimal feature weighting methods for twin systems using post-hoc, explanation-by-example in XAI	Ti
Knowledge-Based Systems, 233 (2021) 107530 https://doi.org/10.1016/j.knosys.2021.107530	Jo
Eoin M. Kenny and Mark T. Keane	Au

XAI.	Drought	2021-018
Keywords	Hybrid model, GIS, Australia	

Interpretable and explainable AI (XAI) model for spatial drought prediction	Ti
Science of The Total Environment, 801 (2021) 149797 https://doi.org/10.1016/j.scitotenv.2021.149797	Jo
Abhirup Dikshit and Biswajeet Pradhan	Au

XAI.	Terminology	2021-019
Keywords	Explainability, interpretability	

Towards a terminology for a fully contextualized XAI	Ti
Procedia Computer Science, 192 (2021) 241-250 https://doi.org/10.1016/j.procs.2021.08.025	Jo
Matthieu Bellucci and Nicolas Delestre and Nicolas Malandain and Cecilia Zanni-Merk	Au

XAI.	Automatic docking	2021-020
Keywords	Marine control systems, Autonomous ships, Docking	

Explainable AI methods on a deep reinforcement learning agent for automatic docking	Ti
IFAC-PapersOnLine, 54 (2021) 146-152 https://doi.org/10.1016/j.ifacol.2021.10.086	Jo
Jakob Løver and Vilde B. Gjørnum and Anastasios M. Lekkas	Au

XAI.		2021-021
Keywords	Factual explanation, Trust, User testing, CNN, Case-based reasoning, Deep learning, - nearest neighbours	

Explaining black-box classifiers using post-hoc explanations-by-example: The effect of explanations and error-rates in XAI user studies	Ti
Artificial Intelligence, 294 (2021) 103459 https://doi.org/10.1016/j.artint.2021.103459	Jo
Eoin M. Kenny and Courtney Ford and Molly Quinn and Mark T. Keane	Au

XAI.	Chemical processes; fault detection	2021-022
Keywords	Explainability, Fault detection and diagnosis, Autoencoders, Deep learning, Tennessee eastman process	

Explainability: Relevance based dynamic deep learning algorithm for fault detection and	Ti
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diagnosis in chemical processes	
Computers & Chemical Engineering, 154 (2021) 107467 https://doi.org/10.1016/j.compchemeng.2021.107467	Jo
Piyush Agarwal and Melih Tamer and Hector Budman	Au

XAI.		2021-023
Keywords	Ensemble trees	

Silas: A high-performance machine learning foundation for logical reasoning and verification		Ti
Expert Systems with Applications, 176 (2021) 114806 https://doi.org/10.1016/j.eswa.2021.114806		Jo
Hadrien Bride and Cheng-Hao Cai and Jie Dong and Jin Song Dong and Zhé Hóu and Seyedali Mirjalili and Jing Sun		Au

XAI.	Graph-Topological features	2021-024
Keywords	Graph NNs, Node representation learning, Graph topological features	

TopoDetect : Framework for topological features detection in graph embeddings		Ti
Software Impacts, 10 (2021) 100139 https://doi.org/10.1016/j.simpa.2021.100139		Jo
Maroun Haddad and Mohamed Bouguessa		Au

XAI.	Mass spectrometry	2021-025
Keywords	Supervised machine learning, Model interpretability	

Automated biomarker candidate discovery in imaging mass spectrometry data through spatially localized Shapley additive explanations		Ti
Analytica Chimica Acta, 1177 (2021) 338522 https://doi.org/10.1016/j.aca.2021.338522		Jo
Leonoor E.M. Tideman and Lukasz G. Migas and Katerina V. Djambazova and Nathan Heath Patterson and Richard M. Caprioli and Jeffrey M. Spraggins and Raf Van de Plas		Au

XAI.	Wind turbines	2021-026
Keywords	Anomaly detection, Predictive maintenance	

Autoencoder-based anomaly root cause analysis for wind turbines		Ti
Energy and AI, 4 (2021) 100065 https://doi.org/10.1016/j.egyai.2021.100065		Jo
Cyriana M.A. Roelofs and Marc-Alexander Lutz and Stefan Faulstich and Stephan Vogt		Au

XAI.	One-class classification, Anomaly detection	2021-027
Keywords	Contrast pattern,	

PBC4occ: A novel contrast pattern-based classifier for one-class classification	Ti
Future Generation Computer Systems, 125 (2021) 71-90 https://doi.org/10.1016/j.future.2021.06.046	Jo
Diana Laura Aguilar and Octavio Loyola-González and Miguel Angel Medina-Pérez and Leonardo Cañete-Sifuentes and Kim-Kwang Raymond Choo	Au

XAI.	Outlier detection	2021-028
Keywords	Unsupervised outlier detection	

Explainable outlier detection: What, for Whom and Why?	Ti
Machine Learning with Applications, 6 (2021) 100172 https://doi.org/10.1016/j.mlwa.2021.100172	Jo
Jonas Herskind Sejr and Anna Schneider-Kamp	Au

XAI.	Fuel cells	2021-029
Keywords	Machine learning, Multiphysics simulation	

Boosting the optimization of membrane electrode assembly in proton exchange membrane fuel cells guided by explainable artificial intelligence	Ti
Energy and AI, 5 (2021) 100098 https://doi.org/10.1016/j.egyai.2021.100098	Jo
Rui Ding and Wenjuan Yin and Gang Cheng and Yawen Chen and Jiankang Wang and Ran Wang and Zhiyan Rui and Jia Li and Jianguo Liu	Au

XAI.	Coal column flotation	2021-030
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Interpretable modeling of metallurgical responses for an industrial coal column flotation circuit by XGBoost and SHAP-A “conscious-lab” development	Ti
International Journal of Mining Science and Technology, 31 (2021) 1135-1144 https://doi.org/10.1016/j.ijmst.2021.10.006	Jo
S. Chehreh Chelgani and H. Nasiri and M. Alidokht	Au

XAI.	Edge devices, food image	2021-031
Keywords	User-centred Food recognition, Deep learning, Neural network, Ensemble learning, Mobile application, Data augmentation	

Explainable deep learning ensemble for food image analysis on edge devices	Ti
Computers in Biology and Medicine, 139 (2021) 104972 https://doi.org/10.1016/j.combiomed.2021.104972	Jo
Ghalib Ahmed Tahir and Chu Kiong Loo	Au

XAI.	Credit investigation	2021-032
Keywords	Fuzzy Bayesian network, causal inference	

A novel reasoning model for credit investigation system based on Fuzzy Bayesian Network	Ti
Procedia Computer Science, 183 (2021) 281-287 https://doi.org/10.1016/j.procs.2021.02.060	Jo
Hui-Dong Wu and Lu Han	Au

XAI.	Railway Networks	2021-033
Keywords	Machine Learning, Feature Engineering, Delay Management, Simulation	

Discerning Primary and Secondary Delays in Railway Networks using Explainable AI	Ti
Transportation Research Procedia, 52 (2021) 171-178 https://doi.org/10.1016/j.trpro.2021.01.018	Jo
David Rößler and Julian Reisch and Florian Hauck and Natalia Kliewer	Au

XAI.	Composite manufacturing	2021-034
Keywords	Non-destructive testing, Process monitoring, Automation	

Investigations on Explainable Artificial Intelligence methods for the deep learning classification of fibre layup defect in the automated composite manufacturing	Ti
Composites Part B: Engineering, 224 (2021) 109160 https://doi.org/10.1016/j.compositesb.2021.109160	Jo
Sebastian Meister and Mahdieu Wermes and Jan Stüve and Roger M. Groves	Au

XAI.	Soil properties	2021-035
Keywords	Spectral chromophores, Vis–NIR	

Using autoencoders to compress soil VNIR–SWIR spectra for more robust prediction of soil properties	Ti
Geoderma, 393 (2021) 114967 https://doi.org/10.1016/j.geoderma.2021.114967	Jo
Evangelos Tsimpouris and Nikolaos L. Tsakiridis and John B. Theocharis	Au

XAI.	Coal analysis	2021-036
Keywords	SHapley Additive exPlanations, Extreme gradient boosting, Energy	

Estimation of gross calorific value based on coal analysis using an explainable artificial intelligence		Ti
Machine Learning with Applications, 6 (2021)100116 https://doi.org/10.1016/j.mlwa.2021.100116		Jo
Saeed Chehreh Chelgani		Au

XAI.		2021-037
Keywords	Human-understandable Global explanations, Ontologies, Neural-symbolic learning and reasoning, Knowledge extraction, Concept refinement	

Using ontologies to enhance human understandability of global post-hoc explanations of black-box models		Ti
Artificial Intelligence, 296 (2021) 103471 https://doi.org/10.1016/j.artint.2021.103471		Jo
Roberto Confalonieri and Tillman Weyde and Tarek R. Besold and Fermín Moscoso del Prado Martín		Au

XAI.	Online discussions	2021-038
Keywords	Cognitive presence, Deep learning, Online discussion	

Automatic analysis of cognitive presence in online discussions: An approach using deep learning and explainable artificial intelligence		Ti
Computers and Education: Artificial Intelligence, 2 (2021) 100037 https://doi.org/10.1016/j.caeai.2021.100037		Jo
Yuanyuan Hu and Rafael Ferreira Mello and Dragan Gašević		Au

XAI.		2021-039
Keywords	Algorithms, deep learning, image analysis, integrated development environments, machine learning, programming languages, software frameworks, software libraries	

Ready, Steady, Go AI: A practical tutorial on fundamentals of artificial intelligence and its applications in phenomics image analysis		Ti
Patterns, 2 (2021) 100323 https://doi.org/10.1016/j.patter.2021.100323		Jo
Farid Nakhle and Antoine L. Harfouche		Au

XAI.	Stakeholder	2021-040
Keywords	Explainability, Interpretability, Understanding, Interdisciplinary Research, Human-Computer Interaction	

What do we want from Explainable Artificial Intelligence (XAI)? – A stakeholder perspective on XAI and a conceptual model guiding interdisciplinary XAI research	Ti
Artificial Intelligence, 296 (2021) 103473 https://doi.org/10.1016/j.artint.2021.103473	Jo
Markus Langer and Daniel Oster and Timo Speith and Holger Hermanns and Lena Kästner and Eva Schmidt and Andreas Sesing and Kevin Baum	Au

XAI.	Conglomerate AI	2021-041
Keywords	Olfactory, chemosensory, machine learning, ligand-receptor, computation, computational biology, neuron, chemotaxis, ligand-binding protein	

OdoriFy : A conglomerate of artificial intelligence–driven prediction engines for olfactory decoding	Ti
Journal of Biological Chemistry, 297 (2021) 100956 https://doi.org/10.1016/j.jbc.2021.100956	Jo
Ria Gupta, Aayushi Mittal, Vishesh Agrawal, Sushant Gupta, Krishan Gupta, Rishi Raj Jain, Prakriti Garg, Sanjay Kumar Mohanty, Riya Sogani, Harshit Singh Chhabra, Vishakha Gautam, Tripti Mishra, Debarka Sengupta, Gaurav Ahuja	Au

XAI.	Ophthalmology, Geographic Atrophy (GA)	2021-042
Keywords	Deep learning, GA detection	

Improving Interpretability in Machine Diagnosis: Detection of Geographic Atrophy in OCT Scans	Ti
Ophthalmology Science, 1 (2021) 100038 https://doi.org/10.1016/j.xops.2021.100038	Jo
Xiaoshuang Shi and Tiarnan D.L. Keenan and Qingyu Chen and Tharindu De Silva and Alisa T. Thavikulwat and Geoffrey Broadhead and Sanjeeb Bhandari and Catherine Cukras and Emily Y. Chew and Zhiyong Lu	Au

XAI.	Organic food	2021-043
Keywords	Organic food, Emotion, Habit, Impulsive purchasing, Data mining	

Shifts in consumer behavior towards organic products : Theory-driven data analytics	Ti
Journal of Retailing and Consumer Services, 61 (2021) 102516 https://doi.org/10.1016/j.jretconser.2021.102516	Jo
Firouzeh Taghikhah and Alexey Voinov and Nagesh Shukla and Tatiana Filatova	Au

XAI.	Perturbation-based methods	2021-044
Keywords	Deep learning	

Perturbation-based methods for explaining deep neural networks: A survey	Ti
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Pattern Recognition Letters, 150 (2021) 228-234 https://doi.org/10.1016/j.patrec.2021.06.030	Jo
Maksims Ivanovs and Roberts Kadikis and Kaspars Ozols	Au

XAI.	Law enforcement, data containers, encrypted data containers	2021-045
Keywords	Artificial intelligence (AI), Computer law, Child pornography, Child abuse materials, Child exploitation materials, Border search, Privacy rights, Search and seizure, Fourth amendment, Probable cause, Reasonable suspicion, Administrative law, Constitutional law, Conflict of law	

On the need for AI to triage encrypted data containers in U.S. law enforcement applications	Ti
Forensic Science International: Digital Investigation, 38 (2021) 301217 https://doi.org/10.1016/j.fsidi.2021.301217	Jo
Sean Lanagan and Kim-Kwang Raymond Choo	Au

XAI.		2021-046
Keywords	Structural engineering, Concrete, FRP	

An engineer's guide to eXplainable Artificial Intelligence and Interpretable Machine Learning: Navigating causality, forced goodness, and the false perception of inference	Ti
Automation in Construction, 129 (2021) 103821 https://doi.org/10.1016/j.autcon.2021.103821	Jo
M.Z. Naser	Au

XAI.	Marine data, Object detection	2021-047
Keywords	YOLO	

Applying object detection to marine data and exploring explainability of a fully convolutional neural network using principal component analysis	Ti
Ecological Informatics, 62 (2021) 101269 https://doi.org/10.1016/j.ecoinf.2021.101269	Jo
Herman Stavelin and Adil Rasheed and Omer San and Arne Johan Hestnes	Au

XAI.	manufacturing cost,	2021-048
Keywords	Cost estimation, Deep learning, 3D CAD, 3D Grad-CAM	

Explainable artificial intelligence for manufacturing cost estimation and machining feature visualization	Ti
Expert Systems with Applications, 183 (2021) 115430 https://doi.org/10.1016/j.eswa.2021.115430	Jo
Soyoung Yoo and Namwoo Kang	Au

XAI.	Agricultural land	2021-049
Keywords	Cropland, Interpretability, LIME	

Evaluation of the factors explaining the use of agricultural land: A machine learning and model-agnostic approach	Ti
Ecological Indicators, 131 (2021) 108200 https://doi.org/10.1016/j.ecolind.2021.108200	Jo
Cláudia M. Viana and Maurício Santos and Dulce Freire and Patrícia Abrantes and Jorge Rocha	Au

XAI.	Dimension reduction	2021-050
Keywords	Feature extraction, Feature selection, Instance selection, Data preprocessing	

Performance comparison of feature selection and extraction methods with random instance selection	Ti
Expert Systems with Applications, 179 (2021) 115072 https://doi.org/10.1016/j.eswa.2021.115072	Jo
Milad Malekipirbazari and Vural Aksakalli and Waleed Shafqat and Andrew Eberhard	Au

XAI.	Learning	2021-051
Keywords	Reinforcement Learning, Machine Learning, Deep Learning, Responsible Representation learning	

Explainability in deep reinforcement learning	Ti
Knowledge-Based Systems, 214 (2021) 106685 https://doi.org/10.1016/j.knosys.2020.106685	Jo
Alexandre Heuillet and Fabien Couthouis and Natalia Díaz-Rodríguez	Au

XAI.	Network traffic	2021-052
Keywords	network traffic security,	

Detecting anomalies and attacks in network traffic monitoring with classification methods and XAI-based explainability	Ti
Procedia Computer Science, 192 (2021) 2259-2268 https://doi.org/10.1016/j.procs.2021.08.239	Jo
Łukasz Wawrowski and Marcin Michalak and Andrzej Białas and Rafał Kurianowicz and Marek Sikora and Mariusz Uchroński and Adrian Kajzer	Au

XAI.		2021-053
Keywords	Evaluation methods	

Notions of explainability and evaluation approaches for explainable artificial intelligence	Ti
Information Fusion, 76 (2021) 89-106 doi = https://doi.org/10.1016/j.inffus.2021.05.009	Jo
Giulia Vilone and Luca Longo	Au

XAI.	Insurance	2021-054
Keywords	Fraud detection, Insurance market, Risk management, Decision support systems, Supervised learning, Feature importance	

Machine learning algorithms for fraud prediction in property insurance: Empirical evidence using real-world microdata	Ti
Machine Learning with Applications, 5 (2021) 100074 doi = https://doi.org/10.1016/j.mlwa.2021.100074	Jo
Matheus Kempa Severino and Yaohao Peng	Au

XAI.	Obstructive sleep apnea-hypopnea	2021-055
Keywords	Apnea-hypopnea index	

Explainable fuzzy neural network with easy-to-obtain physiological features for screening obstructive sleep apnea-hypopnea syndrome	Ti
Sleep Medicine, 85 (2021) 280-290 doi = https://doi.org/10.1016/j.sleep.2021.07.012	Jo
Chia-Feng Juang and Chih-Yu Wen and Kai-Ming Chang and Yu-Hsuan Chen and Ming-Feng Wu and Wei-Chang Huang	Au

XAI.	'Limiting similarity vs. Limiting dissimilarity'	2021-056
Keywords	Individual-based model, Cellular automata, Population dynamics, Resource competition, Trophic interactions, Transparent and Theory of competition, Ecological sustainability, Computational biology	

A solution to the dilemma 'limiting similarity vs. limiting dissimilarity' by a method of transparentAI	Ti
Chaos, Solitons & Fractals, 146 (2021) 110814 https://doi.org/10.1016/j.chaos.2021.110814	Jo
Lev V. Kalmykov and Vyacheslav L. Kalmykov	Au

XAI.		2021-057
Keywords	Automated Fiber Placement, Inline inspection, CNN, Laser Line Scan Sensor, Support Vector Machine	

Cross-evaluation of a parallel operating SVM – CNN classifier for reliable internal decision-making processes in composite inspection	Ti
Journal of Manufacturing Systems, 60 (2021) 620-639 doi = https://doi.org/10.1016/j.jmsy.2021.07.022	Jo
Sebastian Meister and Mahdieu Wermes and Jan Stüve and Roger M. Groves	Au

XAI.	Intelligent tutoring systems	2021-058
Keywords	User modeling, Personalization	

Toward personalized XAI: A case study in intelligent tutoring systems		Ti
Artificial Intelligence, 298 (2021) 103503 doi = https://doi.org/10.1016/j.artint.2021.103503		Jo
Cristina Conati and Oswald Barral and Vanessa Putnam and Lea Rieger		Au

XAI.	Android Malware Detection	2021-059
Keywords	Deep learning, CNN, LIME	

Towards Explainable CNNs for Android Malware Detection		Ti
Procedia Computer Science, 184 (2021) 959-965 doi = https://doi.org/10.1016/j.procs.2021.03.118		Jo
Martin Kinkead and Stuart Millar and Niall McLaughlin and Philip O'Kane		Au

XAI.	Pruning,DeepNN	2021-060
Keywords	Layer-wise relevance propagation (LRP), CNN, Interpretation of models	

Pruning by explaining: A novel criterion for deep neural network pruning		Ti
Pattern Recognition, 115 (2021) 107899 doi = https://doi.org/10.1016/j.patcog.2021.107899		Jo
Seul-Ki Yeom and Philipp Seegerer and Sebastian Lapuschkin and Alexander Binder and Simon Wiedemann and Klaus-Robert Müller and Wojciech Samek		Au

XAI.	Remote sensing	2021-061
Keywords	Interpretability, Explainability, Deep neural networks, Black-box models, BigEarthNet, SEN12MS	

Evaluating explainable artificial intelligence methods for multi-label deep learningclassification tasks in remote sensing		Ti
International Journal of Applied Earth Observation and Geoinformation, 103 (20) https://doi.org/10.1016/j.jag.2021.102520		Jo
Ioannis Kakogeorgiou and Konstantinos Karantzalos		Au

XAI.	Telecom traffic	2021-062
Keywords	Fraud prediction, Unsupervised learning, Interpretable machine learning	

Telecom traffic pumping analytics via explainable data science		Ti
Decision Support Systems, 150 (2021) 113559 doi = https://doi.org/10.1016/j.dss.2021.113559		Jo

María Elisa Irarrázaval and Sebastián Maldonado and Juan Pérez and Carla Vairetti	Au
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XAI.	Gradient boosting machines	2021-063
Keywords	Decision tree, Lasso method	

Interpretable machine learning with an ensemble of gradient boosting machines	Ti
Knowledge-Based Systems , 222 (2021) 106993 https://doi.org/10.1016/j.knosys.2021.106993	Jo
Andrei V. Konstantinov and Lev V. Utkin	Au

XAI.		2021-064
Keywords	Assembly Automation, Deep Learning NeuroCAD, Grad-CAM, LIME, LRP	

Feature visualization within an automated design assessment leveraging explainable artificial intelligence methods	Ti
Procedia CIRP , 100 (2021) 331-336 https://doi.org/10.1016/j.procir.2021.05.075	Jo
Raoul Schönhof and Artem Werner and Jannes Elstner and Boldizsar Zopcsak and Ramez Awad and Marco Huber	Au

XAI.	Industrial HPGR products	2021-065
Keywords	Working gap, Roller speed, Particle properties, Machine learning, XGBoost	

Modeling of particle sizes for industrial HPGR products by a unique explainable AI tool- A “Conscious Lab” development	Ti
Advanced Powder Technology , 32 (2021) 4141-414 https://doi.org/10.1016/j.appt.2021.09.020	Jo
S. Chehreh Chelgani and H. Nasiri and A. Tohry	Au

XAI.	Feature selection	2021-066
Keywords	Stochastic approximation, Gradient descent, Barzilai and Borwein method, Genetic algorithm	

Feature selection using stochastic approximation with Barzilai and Borwein non-monotone gains	Ti
Computers & Operations Research , 132 (2021) 105334 https://doi.org/10.1016/j.cor.2021.105334	Jo
Vural Aksakalli and Zeren D. Yenice and Milad Malekipirbazari and Kamyar Kargar	Au

XAI.	Climate chang, building cooling energy	2021-067
Keywords	Future climate change scenarios, Shared socioeconomic pathways, CMIP6	

Scenario-based prediction of climate change impacts on building cooling energy consumption with explainable artificial intelligence	Ti
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Applied Energy, 291 (2021) 116807 https://doi.org/10.1016/j.apenergy.2021.116807	Jo
Debaditya Chakraborty and Arafat Alam and Saptarshi Chaudhuri and Hakan Başağaoğlu and Tulio Sulbaran and Sandeep Langar	Au

XAI.	Fingerprints, vitality detection	2021-068
Keywords	Liveness detection, Livedet2019, Deep Learning, Computer vision SVM, BSIF, LPQ, WLD	

A comparative study of shallow learning and deep transfer learning techniques for accurate fingerprints vitality detection	Ti
Pattern Recognition Letters, 151 (2021) 11-18 doi = https://doi.org/10.1016/j.patrec.2021.07.025	Jo
Donato Impedovo and Vincenzo Dentamaro and Giacomo Abbattista and Vincenzo Gattulli and Giuseppe Pirlo	Au

XAI.	Human-aligned conversation	2021-069
Keywords	Broad-XAI, Interpretable Machine Learning (IML), Artificial General Intelligence (AGI), Human-Computer Interaction (HCI)	

Levels of explainable artificial intelligence for human-aligned conversational explanations	Ti
Artificial Intelligence, 299 (2021) 103525 doi = https://doi.org/10.1016/j.artint.2021.103525	Jo
Richard Dazeley and Peter Vamplew and Cameron Foale and Charlotte Young and Sunil Aryal and Francisco Cruz	Au

XAI.		2021-070
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DMRFNet: Deep Multimodal Reasoning and Fusion for Visual Question Answering and explanation generation	Ti
Information Fusion, 72 (2021) 70-79 https://doi.org/10.1016/j.inffus.2021.02.006	Jo
Weifeng Zhang and Jing Yu and Wenhong Zhao and Chuan Ran	Au

XAI.	Squashing activation functions	2021-071
Keywords	Neural networks, Squashing function	

Squashing activation functions in benchmark tests: Towards a more explainable Artificial Intelligence using continuous-valued logic	Ti
Knowledge-Based Systems, 218(2021)106779 https://doi.org/10.1016/j.knosys.2021.106779	Jo
Daniel Zeltner and Benedikt Schmid and Gábor Csiszár and Orsolya Csiszár	Au

XAI.	Dew point cooler	2021-072
Keywords	Multi objective evolutionary optimization, Particle Swarm Optimization, Slime Mould Algorithm, Artificial Intelligence	

Hourly performance forecast of a dew point cooler using explainable Artificial Intelligence and evolutionary optimisations by 2050	Ti
Applied Energy, 281 (2021) 116062 https://doi.org/10.1016/j.apenergy.2020.116062	Jo
Yousef Golizadeh Akhlaghi and Koorosh Aslansefat and Xudong Zhao and Saba Sadati and Ali Badiei and Xin Xiao and Samson Shittu and Yi Fan and Xiaoli Ma	Au

XAI.	Taxonomy, xAI	2021-073
Keywords	Preference relation, Multiple attribute decision making, Computing with words	

Distributed linguistic representations in decision making: Taxonomy, key elements and applications, and challenges in data science and explainable artificial intelligence	Ti
Information Fusion, 65 (2021) 165-178 https://doi.org/10.1016/j.inffus.2020.08.018	Jo
Yuzhu Wu and Zhen Zhang and Gang Kou and Hengjie Zhang and Xiangrui Chao and Cong-Cong Li and Yucheng Dong and Francisco Herrera	Au

XAI.	Shapley-Lorenz-xAI	2021-074
Keywords	Shapley values, Lorenz Zonoids, Predictive accuracy	

Shapley-Lorenz eXplainable Artificial Intelligence	Ti
Expert Systems with Applications, 167 (2021) 114104 https://doi.org/10.1016/j.eswa.2020.114104	Jo
Paolo Giudici and Emanuela Raffinetti	Au

XAI.		2021-075
Keywords	Conversion Rate (CVR) prediction, Lamarckian Evolution	

Multi-objective Grammatical Evolution of Decision Trees for Mobile Marketing user conversion prediction	Ti
Expert Systems with Applications, 168 (2021) 114287 https://doi.org/10.1016/j.eswa.2020.114287	Jo
Pedro José Pereira and Paulo Cortez and Rui Mendes	Au

XAI.		2021-076
Keywords	Open source software, Large scale interpretability, Genomics	

BayeSuites: An open web framework for massive Bayesian networks focused on neuroscience	Ti
Neurocomputing, 428 (2021) 166-181 doi = https://doi.org/10.1016/j.neucom.2020.11.066	Jo
Mario Michiels and Pedro Larrañaga and Concha Bielza	Au

XAI.		2021-077
Keywords	User evaluations, Contrastive explanations, Machine learning, Decision support systems	

Evaluating XAI: A comparison of rule-based and example-based explanation	Ti
Artificial Intelligence, 291(2021) 103404 https://doi.org/10.1016/j.artint.2020.103404	Jo
Jasper van der Waa and Elisabeth Nieuwburg and Anita Cremers and Mark Neerincx	Au

XAI.	Spatial relation learning	2021-078
Keywords	Relation learning, Fuzzy logic	

Spatial relation learning for explainable image classification and annotation in critical applications	Ti
Artificial Intelligence, 292 (2021) 103434 https://doi.org/10.1016/j.artint.2020.103434	Jo
Régis Pierrard and Jean-Philippe Poli and Céline Hudelot	Au

XAI.	Global solar radiation	2021-079
Keywords	Data mining, Expert systems	

Binding data mining and expert knowledge for one-day-ahead prediction of hourly global solar radiation	Ti
Expert Systems with Applications, 167 (2021) 114147 https://doi.org/10.1016/j.eswa.2020.114147	Jo
José del Campo-Ávila and Abdelatif Takilalte and Albert Bifet and Llanos Mora-López	Au

XAI.	Credit score prediction	2021-080
Keywords	Supervised learning,	

A benchmark of machine learning approaches for credit score prediction	Ti
Expert Systems with Applications, 165 (2021) 113986 doi = https://doi.org/10.1016/j.eswa.2020.113986	Jo
Vincenzo Moscato and Antonio Picariello and Giancarlo Sperlí	Au

XAI.		2021-081
Keywords	Interpretable machine learning, Transparent models, Deep learning,	

Explaining the black-box model: A survey of local interpretation methods for deep neural networks	Ti
Neurocomputing, 419 (2021) 168-182 https://doi.org/10.1016/j.neucom.2020.08.011	Jo
Yu Liang and Siguang Li and Chungang Yan and Maozhen Li and Changjun Jiang	Au

XAI.	Post-hoc explanation	2021-082
Keywords	Machine learning, Interpretability, Fidelity	

Post-hoc explanation of black-box classifiers using confident itemsets	Ti
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Expert Systems with Applications, 165 (2021)113941 https://doi.org/10.1016/j.eswa.2020.113941	Jo
Milad Moradi and Matthias Samwald	Au

XAI.	Environment, PM2.5	2021-083
Keywords	Source apportionment, XGBoost method	

The PM2.5-bound polycyclic aromatic hydrocarbon behavior in indoor and outdoor environments, part I: Emission sources	Ti
Environmental Research, 193 (2021)110520 https://doi.org/10.1016/j.envres.2020.110520	Jo
Svetlana Stanišić and Mirjana Perišić and Gordana Jovanović and Tijana Milićević and Snježana Herceg Romanić and Aleksandar Jovanović and Andrej Šoštarić and Vladimir Udovičić and Andreja Stojić	Au