

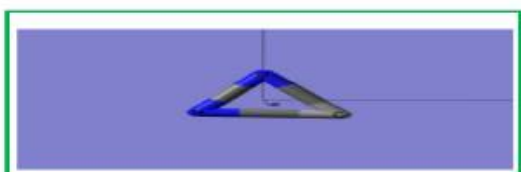


# Journal of Applicable Chemistry

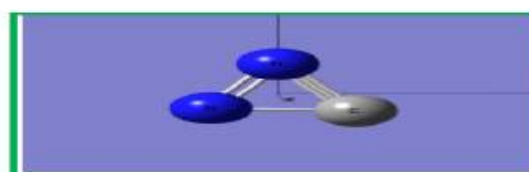
2024, 13 (2): 122-132  
(International Peer Reviewed Journal)



## New Chemistry News



**New News of Chem (NNC)**



**ChemNewsNew (CNN)**

## CNN – 59(a) eXplainable AI xAI.Medicine.Ref.2024 Jan -and Feb

Information Source	sciencedirect.com;	
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**Conspectus:** The primary research literature on xAI has been growing exponentially year by year. In this report, the references are restricted to the field of clinical medicine. The time period covered is January and February of 2024. The relevant titles are shortlisted from on-line search in Science Direct, Google scholar and PMC

**Keywords:** eXplainable AI (xAI); Research literature reports (2024 Jan Feb); Machine Learning; Deep architectures; xAI, Post-hoc, ante-hoc explanations; xAI-Probes; Local interpretable model-

agnosticexplanations (LIME), SHAP, Layer-wise Relevance propagation, Partial dependence plots, ClassActivation map (CAM), Grad-CAM; Integrated gradients; Concept activation map, Heatmaps; Saliencymaps;tSNE plot; Feature Relevance explanation;  
 CNN : [C [Computations; Computer; Chemistry] NN [New News; News New; Neural Nets; Nature News; News of Nature;] ];

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## Select \_Ref. xAI.Medicine 2024Jan -to Feb

xAI	Medical		2024-01
Towards Clinical Prediction with Transparency: An Explainable AI Approach to Survival Modelling in Residential Aged Care			Ti
medRxiv, 2024. <a href="https://doi.org/10.1101/2024.01.14.24301299">https://doi.org/10.1101/2024.01.14.24301299</a>			Jo
Teo Susnjak, Elise Griffin			Au

xAI	Medical		2024-02
An Explainable AI Paradigm for Alzheimer's Diagnosis Using Deep Transfer Learning			Ti
Diagnostics , 2024, 14(3), 345 <a href="https://doi.org/10.3390/diagnostics14030345">https://doi.org/10.3390/diagnostics14030345</a>			Jo
Mahmud T, Barua K, Habiba SU, Sharmen N, Hossain MS, Andersson K			Au

xAI	Medical		2024-03
Prediction of Severity Levels of Alzheimer's Disease from a Comprehensive MRI Data Analysis: An Explainable Ai Framework for Clinical Insights			Ti
<a href="http://dx.doi.org/10.2139/ssrn.4720369">http://dx.doi.org/10.2139/ssrn.4720369</a>			Jo
Abraham Varghese, Vinu Sherimon, GP Prashanth, Ben George			Au

xAI	Medical		2024-04
Unlocking the Potential of XAI for Improved Alzheimer's Disease Detection and Classification Using a ViT-GRU Model			Ti
IEEE Access,2024, 12, 8390-8412 doi: 10.1109/ACCESS.2024.3351809			Jo
S. M. Mahim, M. S. Ali, M. O. Hasan, A. A. N. Nafi, A. Sadat, S. A. Hasan, B. Shareef,			Au

M. M. Ahsan, M. K. Islam, M. S. Miah, B. Niu	
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xAI	Medical		2024-05
Architecture of a Hybrid Clinical Decision Support System			Ti
Proceedings of the Seventh International Scientific Conference “Intelligent Information Technologies for Industry” (IITI’23). IITI 2023. Lecture Notes in Networks and Systems, vol 777. Springer, Cham. <a href="https://doi.org/10.1007/978-3-031-43792-2_15">https://doi.org/10.1007/978-3-031-43792-2_15</a>			Jo
Karina I. Shakhgelyan, Boris I. Geltser, Bogdan V. Potapenko			Au

xAI	Medical		2024-06
Deep Learning-Based, Multiclass Approach to Cancer Classification on Liquid Biopsy Data," in			Ti
IEEE Journal of Translational Engineering in Health and Medicine, 2024, 12, 306-313doi: 10.1109/JTEHM.2024.3360865			Jo
M. A. Jopek, K. Pastuszek, S. Cygert, M. G. Best, T. Wurdinger, J. Jassem, A. J. Żaczek, A. Supernat			Au

xAI	Medical		2024-07
Deep Learning Approaches for Brain Tumor Detection in MRI Images: A Comprehensive Survey			Ti
International Journal of Intelligent Systems and Applications in Engineering, 2024, 12(13s), 586-602			Jo
Rahul Namdeo Jadhav, Dr. G. Sudhaghar			Au

xAI	Medical		2024-08
A Soft Voting Machine Learning Model with Explainable AI for Cardiovascular Disease Management			Ti
DOI: 10.13140/RG.2.2.32578.76486			Jo
Muntasir, Fahim			Au

xAI	Medical		2024-09
Editorial: Recent Advances in Deep Learning and Medical Imaging for Cancer Treatment			Ti
Cancers, 2024, 16(4), 700 <a href="https://doi.org/10.3390/cancers16040700">https://doi.org/10.3390/cancers16040700</a>			Jo
Ijaz, M.F. Woźniak, M.			Au

xAI	Medical		2024-10
Vision Transformers for Covid-19 Cxr Image Severity Classification with Explainable Ai.			Ti
<a href="http://dx.doi.org/10.2139/ssrn.4713173">http://dx.doi.org/10.2139/ssrn.4713173</a>			Jo
Pun Liang Thon, Joel Than, Jasmine Chu, Patrick Then			Au

xAI	Medical		2024-11
Digital Twins, Digital Triplets, and eXplainable AI, in Precision Health			Ti
Roles and Challenges of Semantic Intelligence in Healthcare Cognitive Computing. IOS Press, 2024. 1-30. DOI:10.3233/SSW230023			Jo
Asoke K. Talukder, Suptendra Nath Sarbadhikari, Erwin Selg, Roland E. Haas			Au

xAI	Medical		2024-12
An efficient feature selection and explainable classification method for EEG-based epileptic seizure detection			Ti
Journal of Information Security and Applications, 2024, 80, 103654 <a href="https://doi.org/10.1016/j.jisa.2023.103654">https://doi.org/10.1016/j.jisa.2023.103654</a>			Jo
Ijaz Ahmad, Chen Yao, Lin Li, Yan Chen, Zhenzhen Liu, Inam Ullah, Mohammad Shabaz, Xin Wang, Kaiyang Huang, Guanglin Li, Guoru Zhao, Oluwarotimi Williams Samuel, Shixiong Chen			Au

xAI	Medical		2024-13
Deep learning-based natural language processing for detecting medical symptoms and histories in emergency patient triage			Ti
The American Journal of Emergency Medicine, 2024, 77, 29-38 <a href="https://doi.org/10.1016/j.ajem.2023.11.063">https://doi.org/10.1016/j.ajem.2023.11.063</a>			Jo
Siryeol Lee, Juncheol Lee, Juntae Park, Jiwoo Park, Dohoon Kim, Joohyun Lee, Jaehoon Oh			Au

xAI	Medical		2024-14
Explainable AI in Healthcare: Factors Influencing Medical Practitioners' Trust Calibration in Collaborative Tasks			Ti
Proceedings of the 57th Hawaii International Conference on System Sciences, 2024 <a href="https://hdl.handle.net/10125/106785">https://hdl.handle.net/10125/106785</a>			Jo
Mahdieh Darvish, Jan-Hendrik Holst, Markus Bick			Au

xAI	Medical		2024-15
An interpretable approach using hybrid graph networks and explainable AI for intelligent diagnosis recommendations in chronic disease care			Ti

Biomedical Signal Processing and Control, 2024, 91105913 <a href="https://doi.org/10.1016/j.bspc.2023.105913">https://doi.org/10.1016/j.bspc.2023.105913</a>			Jo
Mengxing Huang, Xiu Shi Zhang, Uzair Aslam Bhatti, YuanYuan Wu, Yu Zhang, Yazeed Yasin Ghadi,			Au

xAI	Medical		2024-16
<a href="#">Machine learning for an explainable cost prediction of medical insurance</a>			Ti
Machine Learning with Applications,2024, 15,100516 <a href="https://doi.org/10.1016/j.mlwa.2023.100516">https://doi.org/10.1016/j.mlwa.2023.100516</a>			Jo
Ugochukwu Orji, Elochukwu Ukwandu			Au

xAI	Medical		2024-17
<a href="#">Fuzzy inference system with interpretable fuzzy rules: Advancing explainable artificial intelligence for disease diagnosis—A comprehensive review</a>			Ti
Information Sciences, 2024, 662, 120212 <a href="https://doi.org/10.1016/j.ins.2024.120212">https://doi.org/10.1016/j.ins.2024.120212</a>			Jo
Jin Cao, Ta Zhou, Shaohua Zhi, Saikit Lam, Ge Ren, Yuanpeng Zhang, Yongqiang Wang, Yanjing Dong, Jing Cai			Au

xAI	Medical		2024-18
<a href="#">Research on the Application and Interpretability of Predictive Statistical Data Analysis Methods in Medicine</a>			Ti
BioMedInformatics, 2024, 4(1), 321-325 <a href="https://doi.org/10.3390/biomedinformatics4010018">https://doi.org/10.3390/biomedinformatics4010018</a>			Jo
Pentti Nieminen			Au

xAI	Medical		2024-19
<a href="#">Explainable AI Evaluation: A Top-Down Approach for Selecting Optimal Explanations for Black Box Models</a>			Ti
Information, 2024, 15(1), 4 <a href="https://doi.org/10.3390/info15010004">https://doi.org/10.3390/info15010004</a>			Jo
SeyedehRoksana Mirzaei,Hua Mao,Raid Rafi Omar Al-Nim, Wai Lok Woo			Au

xAI	Medical		2024-20
<a href="#">Image Detection of Rare Orthopedic Diseases based on Explainable AI</a>			Ti
In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, 2024, 654-659			Jo
Qi-Xiang Zhang, Shun-Ping Wang, Yu-Wei Chan, Chih-Hung Chang			Au

xAI	Medical		2024-21
MICA: Towards Explainable Skin Lesion Diagnosis via Multi-Level Image-Concept Alignment			Ti
<a href="https://doi.org/10.48550/arXiv.2401.08527">https://doi.org/10.48550/arXiv.2401.08527</a>			Jo
YequanBie, Luyang Luo, Hao Chen			Au

xAI	Medical		2024-22
Designing explainable AI to improve human-AI team performance: A medical stakeholder-driven scoping review			Ti
Artificial Intelligence in Medicine, 2024, 149, 102780 <a href="https://doi.org/10.1016/j.artmed.2024.102780">https://doi.org/10.1016/j.artmed.2024.102780</a>			Jo
Harishankar V. Subramanian, Casey Canfield, Daniel B. Shank			Au

xAI	Medical		2024-23
New Formalism for Statistical Similarity Based XAI			Ti
Information Technology and Implementation (IT&I-2023), November 20 – 21, 2023, Kyiv, Ukraine ORCID: 0000-0003-4554-1049 (D. Klyushin)			Jo
Dmitriy Klyushin			Au

xAI	Medical		2024-24
Explainable AI for survival analysis: a median-SHAP approach			Ti
Proceedings of the 39 th International Conference on Machine Learning, Baltimore, Maryland, USA, PMLR 162, 2022 <a href="https://doi.org/10.48550/arXiv.2402.00072">https://doi.org/10.48550/arXiv.2402.00072</a>			Jo
Lucile Ter-Minassian, Sahra Ghalebikesabi, Karla Diaz-Ordaz, Chris Holmes			Au

xAI	Medical		2024-25
XKidneyOnco: An Explainable Framework to Classify Renal Oncocytoma and Chromophobe Renal Cell Carcinoma with a Small Sample Size			Ti
bioRxiv, 2024 <a href="https://doi.org/10.1101/2024.01.23.576782">https://doi.org/10.1101/2024.01.23.576782</a>			Jo
Tahereh Javaheri, Samar Heidari, Xu Yang, Sandeep Yerra, Khaled Seidi, Mohammad Hadi Gharib, Tahereh Setayesh, Guanglan Zhang, Lou Chitkushev, Patricia Castro, Sayeeduddin Shahida Salar, Zahida Sayeeduddin, Neda Zarrin-Khameh, Mohammad Haeri, Reza Rawassizadeh			Au

xAI	Medical		2024-26
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A-XAI: adversarial machine learning for trustable explainability			Ti
AI and Ethics (2024): 1-32 <a href="https://doi.org/10.1007/s43681-023-00368-4">https://doi.org/10.1007/s43681-023-00368-4</a>			Jo
Nishita Agrawal, Isha Pendharkar, Jugal Shroff, Jatin Raghuvanshi, Akashdip Neogi, Shruti Patil, RaheeWalambeand Ketan Kotecha			Au

xAI	Medical		2024-27
Does Explainability Enhance the Effectiveness of AI Models in Public Health? TheCOVID-19 Context			Ti
Journal of Soft Computing and Decision Support Systems, 2024, 11(1). <a href="https://jscdss.com/index.php/files/article/view/269">https://jscdss.com/index.php/files/article/view/269</a>			Jo
Neda Ahmadi, MehrbakhshNilashi			Au

xAI	Medical		2024-28
Demystifying AI: Navigating the Balance between Precision andComprehensibility with Explainable Artificial Intelligence			Ti
International Journal of Computing and Engineering, 2024, 5(1), 12-17 <a href="https://doi.org/10.47941/ijce.1603">https://doi.org/10.47941/ijce.1603</a>			Jo
Narayana Challa			Au

xAI	Medical		2024-29
Diabetic retinopathy disease detection using shapley additive ensembled densenet-121 resnet-50 model			Ti
Multimed Tools Appl., 2024 <a href="https://doi.org/10.1007/s11042-024-18309-6">https://doi.org/10.1007/s11042-024-18309-6</a>			Jo
A. Rosline Mary and P. Kavitha			Au

xAI	Medical		2024-30
Explainable Early Prediction of Gestational Diabetes Biomarkers by Combining Medical Background and Wearable Devices: A Pilot Study with a Cohort Group in South Africa			Ti
IEEE J Biomed Health Inform., 2024 DOI: 10.1109/JBHI.2024.3361505			Jo
SefkiKoloZali, Sara L White, Shane Norris, Maria Fasli, Alastair van Heerden			Au

xAI	Medical		2024-31
The Crucial Role of InterdisciplinaryConferences in Advancing ExplainableAI in Healthcare			Ti
Preprints 2024, 2024010231. <a href="https://doi.org/10.20944/preprints202401.0231.v1">https://doi.org/10.20944/preprints202401.0231.v1</a>			Jo

Ankush U. Patel, Qiangqiang Gu, Ronda Esper, Danielle Maeser, Nicole Maeser			Au
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xAI	Medical		2024-32
<a href="#">Explainable AI Models on Radiographic Images Integrated with Clinical Measurements: Prediction for Unstable Hips in Infants</a>			Ti
<a href="https://doi.org/10.21203/rs.3.rs-3805622/v1">https://doi.org/10.21203/rs.3.rs-3805622/v1</a>			Jo
Hirokazu Shimizu, Ken Enda, Hidenori Koyano, Tomohiro Shimizu, Shun Shimodan, Komei Sato, Takuya Ogawa, Shinya Tanaka, Norimasa Iwasaki, Daisuke Takahashi			Au

xAI	Medical		2024-33
<a href="#">Recent developments in machine learning modeling methods for hypertension treatment</a>			Ti
Hypertens Res, 2024, 47, 700–707 <a href="https://doi.org/10.1038/s41440-023-01547-w">https://doi.org/10.1038/s41440-023-01547-w</a>			Jo
Hirohiko Kohjitani, Hiroshi Koshimizu, Kazuki Nakamura and Yasushi Okuno			Au

xAI	Medical		2024-34
<a href="#">Lung Cancer Detection Using Explainable Artificial Intelligence in Medical Diagnosis</a>			Ti
Advances in Explainable AI Applications for Smart Cities, 2024 DOI: 10.4018/978-1-6684-6361-1.ch013			Jo
M. Sundarajan, Senthil Perumal, S. Sasikala, Manikandan Ramachandran, N. Pradeep			Au

xAI	Medical		2024-35
<a href="#">A Comprehensive Survey of Artificial Intelligence in Precision Healthcare: Shedding Light on Interpretability</a>			Ti
<a href="https://doi.org/10.21203/rs.3.rs-3934081/v1">https://doi.org/10.21203/rs.3.rs-3934081/v1</a>			Jo
Nagashruthi MK, Hemanth KS, Seyed M Buhari			Au

xAI	Medical		2024-36
<a href="#">AI-Enhanced Detection of Clinically Relevant Structural and Functional Anomalies in MRI: Traversing the Landscape of Conventional to Explainable Approaches</a>			Ti
<a href="https://doi.org/10.1002/jmri.29247">https://doi.org/10.1002/jmri.29247</a>			Jo
Pegah Khosravi, Saber Mohammadi, Fatemeh Zahiri, Masoud Khodarahmi, Javad Zahiri			Au

xAI	Medical		2024-37
<a href="#">Opacity, Machine Learning and Explainable AI</a>			Ti



In: Lara, F., Deckers, J. (eds) Ethics of Artificial Intelligence. The International Library of Ethics, Law and Technology, vol 41. Springer, Cham. <a href="https://doi.org/10.1007/978-3-031-48135-2_3">https://doi.org/10.1007/978-3-031-48135-2_3</a>	Jo
Alberto Fernández	Au

xAI	Medical		2024-38
Fractal dimensions and machine learning for detection of Parkinson's disease in resting-state electroencephalography			Ti
Neural Comput&Applic., 2024 <a href="https://doi.org/10.1007/s00521-024-09521-4">https://doi.org/10.1007/s00521-024-09521-4</a>			Jo
Utkarsh Lal, Arjun Vinayak Chikkankodand Luca Longo			Au

xAI	Medical		2024-39
Quantum topological data analysis: using Fourier analysis to learn topological properties			Ti
Bulletin of the American Physical Society, 2024			Jo
Stefano Scali, Oleksandr Kyriienko, Chukwudubem Umeano			Au

xAI	Medical		2024-40
Robust explanation supervision for false positive reduction in pulmonary nodule detection			Ti
Medical Physics, 2024 <a href="https://doi.org/10.1002/mp.16937">https://doi.org/10.1002/mp.16937</a>			Jo
Qilong Zhao, Chih-Wei Chang, Xiaofeng Yang, Liang Zhao			Au

xAI	Medical		2024-41
Introduction to Digital Humanism A Textbook			Ti
Springer Cham, 2024 <a href="https://doi.org/10.1007/978-3-031-45304-5">https://doi.org/10.1007/978-3-031-45304-5</a>			Jo
Hannes Werthner, Carlo Ghezzi, Jeff Kramer, Julian Nida-Rümelin, Bashar Nuseibeh, Erich Prem, Allison Stanger			Au

xAI	Medical		2024-42
Investigation on explainable machine learning models to predict chronic kidney diseases			Ti
Scientific Reports, 2024, 14, 3687 <a href="https://doi.org/10.1038/s41598-024-54375-4">https://doi.org/10.1038/s41598-024-54375-4</a>			Jo
Samit Kumar Ghosh and Ahsan H. Khandoker			Au

xAI	Medical		2024-43
ClusteredSHAP: Faster GradientExplainer based on K-means Clustering and Selections of Gradients in Explaining 12-Lead ECG Classification Model			Ti
In Proceedings of the 13th International Conference on Advances in Information Technology (IAIT '23). Association for Computing Machinery, New York, NY, USA, Article 27, 1–8. <a href="https://doi.org/10.1145/3628454.3631199">https://doi.org/10.1145/3628454.3631199</a>			Jo
Bo-Yu Mo, SirapopNuannimnoi, Angger Baskoro, Azam Khan, Jasmine Ariesta Dwi Pratiwi, and Ching-Yao Huang			Au

AI	Medical		2024-44
Design and development of a fuzzy explainable expert systemfor a diagnostic robot of COVID-19			Ti
International Journal of Electrical and Computer Engineering (IJECE), 2023, 13(6), 6940-6951. DOI: 10.11591/ijece.v13i6.pp6940-6951			Jo
Omar El Beggar, Mohammed Ramdani, Mohamed Kissi			Au

xAI	Medical		2024-45
AI-based defect and irregular pattern detection, classification and retrieval models enhanced with morphological feature engineering for enabling AI reasoning capability			Ti
<a href="https://doi.org/10.26174/thesis.lboro.24999299.v1">https://doi.org/10.26174/thesis.lboro.24999299.v1</a>			Jo
Jiajun Zhang			Au

xAI	Medical	Thesis	2024-46
Assessing Doctor and Patient explanation and information needs of Explainable Artificial Intelligence			Ti
January 25th 2024, APA 7th edition, University of Twente			Jo
Matas Kazokas			Au

xAI	Medical		2024-47
A ComparativeStudy BetweenModels of Increasing Complexity:Acasestudyusing Industry Data			Ti
Thesis: UNIVERSIDADE DOPORTO, 2023			Jo
Rafael MAMEDE			Au

xAI	Medical		2024-48
Optimizing Medical Costs and Resource Utilization Using Causal Inference and Explaining the Model's Predictions			Ti

PhD diss., IIT-Delhi, 2023	Jo
Tanisha Jain	Au

xAI	Medical	Covid-19	-49
An explainable forecasting system for humanitarian needs assessment			Ti
AI Magazine 44: 354–362, 2023 <a href="https://doi.org/10.1002/aaai.12133">https://doi.org/10.1002/aaai.12133</a>			Jo
Nair, R., B. Madsen, and A. Kjærum			Au

**Science is miraculous.  
It is!  
isn't it?**

**Energy (Boson To Universe)**

**Deep Learning (AI [Nat.Int.; xAI; Super Int.] +  
Deep Thinking/Modelling ([Physics; Chemistry; Biology])  
Of [Energy; Materials; Life] →  
Deeper Understanding (AI.PCB.AI)**

**Energy (Universe Down\_to<sub>Boson</sub>)**