Manuscript ID : 00001-89317

Source ID : 00000629

INTERNATIONAL JOURNAL OF MACHINE LEARNING AND CYBERNETICS

Volume 2, Issue 2, July-December 2024, Pages 1-13, Page Count - 13

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING: THE INFLUENCE OF MACHINE LEARNING ON PREDICTIVE ANALYTICS IN HEALTHCARE

Chakradhar Reddy Peddavenkatagari [(1)] Uday Kiran Bijinapally [(2)]

[(1)] Department of Networking and Communications, School of Computing, SRM Institute of Science and Technology Chennai Main Campus (Deemed to be University), Kattankulathur, India.
[(2)] Department of Computing Technologies, School of Computing, SRM Institute of Science and Technology Chennai Main Campus (Deemed to be University), Kattankulathur, India.

Abstract
Artificial Intelligence (AI) and Machine Learning (ML) have transformed numerous industries, including healthcare. Predictive analytics, a subset of data analytics that employs ML algorithms to examine current and historical data for forecasting future events, has become vital in healthcare for enhancing patient outcomes, lowering costs, and optimizing resource management. This paper examines the influence of machine learning on predictive analytics in healthcare, highlighting its applications, advantages, challenges, and future prospects.

Author Keywords
Artificial Intelligence (AI), Machine Learning (ML), Predictive Analytics, Early Disease Detection, Personalized Treatment, Resource Optimization.

ISSN Print:
Source Type: Journals
Publication Language: English
Abbreviated Journal Title: IJMLC
Publisher Name: IAEME Publication
Major Subject: Physical Sciences
Subject area: Artificial Intelligence

ISSN Online:
Document Type: Journal Article
DOI: https://doi.org/10.5281/zenodo.13321533
Access Type: Open Access
Resource Licence: CC BY-NC
Subject Area classification: Computer Science
Source: SCOPEDATABASE

Reference

[1] Kourou, K., Exarchos, T. P., Exarchos, K. P., Karamouzis, M. V., & Fotiadis, D. I. (2015). Machine learning applications in cancer prognosis and prediction. Computational and structural biotechnology journal, 13, 8-17.

[2] Rajkomar, A., Dean, J., & Kohane, I. (2019). Machine learning in medicine. New England Journal of Medicine, 380(14), 1347-1358.

[3] Gogireddy, Yugandhar Reddy, and Chanda Smithesh. "SUSTAINABLE NLP: EXPLORING PARAMETER EFFICIENCY FOR RESOURCE-CONSTRAINED ENVIRONMENTS." Journal of Computer Engineering and Technology (JCET) 7.1 (2024).

[4] Esteva, A., Robicquet, A., Ramsundar, B., Kuleshov, V., DePristo, M., Chou, K., ... & Dean, J. (2019). A guide to deep learning in healthcare. Nature medicine, 25(1), 24-29.

[5] Challagundla, B.C. and Challagundla, S., 2024. Dynamic Adaptation and Synergistic Integration of Genetic Algorithms and Deep Learning in Advanced Natural Language Processing.

[6] Beam, A. L., & Kohane, I. S. (2018). Big data and machine learning in health care. Jama, 319(13), 1317-1318.

[7] Peddavenkatagari, Chakradhar. (2024). EVALUATION METHODOLOGIES AND PERFORMANCE METRICS IN SUPERVISED NER FOR JOURNAL ARTICLES: A CRITICAL ANALYSIS. International Research Journal of Modernization in Engineering Technology and Science. 6.

[8] Challagundla, Bhavith Chandra. "Financial Advisory LLM Model for Modernizing Financial Services and Innovative Solutions for Financial Literacy in India." (2024).

[9] Bijinapalli, Uday Kiran. (2024). Prediction of Cardiac Arrhythmia using Random-Forest Machine Learning Algorithm.

[10] Ching, T., Himmelstein, D. S., Beaulieu-Jones, B. K., Kalinin, A. A., Do, B. T., Way, G. P., ... & Xie, W. (2018). Opportunities and obstacles for deep learning in biology and medicine. Journal of The Royal Society Interface, 15(141), 20170387.

[11] Lohr, S. (2019). Artificial Intelligence Hits the Barrier of Meaning. The New York Times. Retrieved from [link to the article].

[12] Peddavenkatagari, Chakradhar. (2024). EMPOWERING INFORMATION RETRIEVAL: A FRAMEWORK FOR EFFECTIVE DATA SUMMARIZATION USING NLP AND SBERT. International Research Journal of Modernization in Engineering Technology and Science.

[13] Challagundla, Bhavith Chandra, Yugandhar Reddy Gogireddy, and Chakradhar Reddy Peddavenkatagari. "Efficient CAPTCHA Image Recognition Using Convolutional Neural Networks and Long Short-Term Memory Networks." International Journal of Scientific Research in Engineering and Management (IJSREM) (2024).

[14] Miotto, R., Wang, F., Wang, S., Jiang, X., & Dudley, J. T. (2017). Deep learning for healthcare: review, opportunities and challenges. Briefings in bioinformatics, 19(6), 1236-1246.

[15] Obermeyer, Z., & Emanuel, E. J. (2016). Predicting the future—big data, machine learning, and clinical medicine. New England Journal of Medicine, 375(13), 1216-1219.

[16] Challagundla, Bhavith Chandra. "Advanced Neural Network Architecture for Enhanced Multi-Lead ECG Arrhythmia Detection through Optimized Feature Extraction." arXiv preprint arXiv:2404.15347 (2024).

[17] Ravi, D., Wong, C., Deligianni, F., Berthelot, M., Andreu-Perez, J., Lo, B., & Yang, G. Z. (2017). Deep learning for health informatics. IEEE journal of biomedical and health informatics, 21(1), 4-21.

[18] Challagundla, Bhavith Chandra, and Chakradhar Peddavenkatagari. "Neural Sequence-to-Sequence Modeling with Attention by Leveraging Deep Learning Architectures for Enhanced Contextual Understanding in Abstractive Text Summarization." arXiv preprint arXiv:2404.08685 (2024).

[19] Gogireddy, Yugandhar & Bijinapalli, Uday Kiran & Peddavenkatagari, Chakradhar. (2024). Real-time Underwater Garbage Detection with YOLO- based Object Detection and Image Segmentation Models. Journal of Emerging Technologies and Innovative Research. 11. 68-76.

[20] Akundi, S., Soujanya, R., & Madhuri, P. (2020). Big Data analytics in healthcare using Machine Learning algorithms: a comparative study.

[21] Bijinapalli, Uday Kiran. (2024). CNN Based Model for Accurate Acute Lymphoblastic Leukemia Diagnosis from Blood Smear Images. 10.13140/RG.2.2.35714.70081.

[22] Gogireddy, Yugandhar Reddy, Adithya Nandan Bandaru, and Venkata Sumanth. "SYNERGY OF GRAPH-BASED SENTENCE SELECTION AND TRANSFORMER FUSION TECHNIQUES FOR ENHANCED TEXT SUMMARIZATION PERFORMANCE." Journal of Computer Engineering and Technology (JCET) 7.1 (2024).