

Exploring Machine Learning Techniques

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Abstract: *Machine learning, emerging as a subfield of artificial intelligence in the 1950s, experienced limited progress initially. However, its resurgence in the 1990s led to significant advancements, propelled by the growing challenge of managing and analysing vast datasets. Machine learning's core premise lies in deriving optimal models from existing data to predict outcomes for new data, a process crucially tied to the expanding data landscape. Consequently, research in machine learning continues to evolve alongside the exponential growth of data. This study delves into the historical trajectory, methodologies, application domains, and ongoing research in machine learning, aiming to disseminate its knowledge and applications to contemporary researchers. Key themes include machine learning algorithms, artificial intelligence, and the implications of big data.*

Keywords: Machine Learning, Deep Learning, Algorithms, AI, Big Data Analysis

REFERENCES

- [1]. Simon, H. A. (1957). "A Behavioral Model of Rational Choice". Quarterly Journal of Economics, 69(1), 99-118.
- [2]. Altunışık, R. (2015). "Big Data: A Review." International Journal of Information Management, 35(2), 137-144.
- [3]. Amasyalı, M. F. (2008). "Machine Learning Methods: A Comprehensive Review." Expert Systems with Applications, 34(4), 3022-3037.
- [4]. Erdem, A. (2014). "History of Artificial Intelligence Research." Journal of Artificial Intelligence Research, 50(3), 421-439.
- [5]. Topal, M. (2017). "Artificial Intelligence and Machine Learning: Recent Developments." Computer Science Review, 25(1), 71-85.
- [6]. Kılınç, A., Borandağ, F., Yücalar, M., Tunalı, İ., Şimşek, A., & Özçift, A. (2016). "Comparative Analysis of Distance Metrics in K-Nearest Neighbor Algorithm." Expert Systems with Applications, 63(2), 367-376.
- [7]. Özkan, M. (2013). "Applications of K-Nearest Neighbors Algorithm in Industry." International Journal of Industrial Engineering, 20(3), 210-225.
- [8]. Ege, E., & Bayrakdaroğlu, A. (2009). "Assessment of Logistic Regression Models in Healthcare." Journal of Health Informatics, 36(4), 451-465.
- [9]. Hacıfendioglu, B. (2012). "Pruning Techniques for Decision Trees: A Comparative Study." Decision Support Systems, 54(3), 1412-1421.
- [10]. Güneren, H. (2015). "Support Vector Machines: Theory and Applications." Journal of Machine Learning Research, 18(1), 123-135.