Diagnostics

an Open Access Journal by MDPI

CiteScore: 6.9
Indexed in PubMed
Impact Factor: 3.8

Special Issue Reprint

Machine-Learning-Based Disease Diagnosis and Prediction

Edited by: Fakhar Abbas

This Reprint collects the thirty peer-reviewed articles published in the Special Issue "Machine-Learning-Based Disease Diagnosis and Prediction" in *Diagnostics*. Written by research teams from Asia, Europe, the Middle East, and Latin America, the contributions illustrate how machine learning and deep learning are transforming diagnostic and predictive medicine. The topics include medical imaging and radiomics, structured clinical and laboratory risk prediction, explainable and interpretable AI, oncology, ophthalmology, dentistry, and large-scale healthcare systems. Across the articles, recurring themes are the need for external validation, the importance of explainable methods (for example, SHAP-based analyses) to build clinical trust, the rising significance of privacy-preserving and federated learning, and the potential of multimodal data integration. Taken together, this Reprint provides clinicians, data scientists, and biomedical researchers with a timely overview of advances toward more rigorous, interpretable, and clinically meaningful AI-driven diagnostic tools.

https://www.mdpi.com/books/reprint/13271