

**PREDICTION OF HEART DISEASES RISK USING NOVEL
MACHINE LEARNING TECHNIQUES**

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By

ANURADHA. P

17PHCSP007

Supervisor

Dr. (Mrs). VASANTHA KALYANI DAVID

Professor

Department of Computer Science

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore-641043

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80_RECOMMENDATION

ML models are more interpretable and computationally less expensive and works well with small, structured datasets. Whereas DL models often considered as "black boxes" due to complex architectures, require high-performance GPUs and works well with unstructured datasets. By coalescing information from various sources including health records, medical imaging, human activity monitoring devices, and genomic data and integrating Machine Learning (ML) and Deep Learning (DL) models, for heart disease prediction, researchers can gain deeper insights into the factors contributing to heart disease and develop more comprehensive prediction models that would enhance interpretability and prediction accuracy.

Exploration of several other optimization algorithms would contribute to the development of efficient and effective model to predict the risk of heart diseases.

By applying ML techniques, researchers can develop personalized risk assessment models. This approach can help optimize treatment plans and interventions, improving patient outcomes and reducing healthcare costs. These models can help healthcare professionals make better-informed decisions and allocate resources more efficiently.

Cardiac Biomarkers in blood will raise during a heart attack. Medical practitioners rely on these biomarkers to diagnose heart attack in the cases where there is no significant variation in the ECG. Research experimenting cardiac biomarkers data of persons having family members with heart disease, might be a new pathway leading to early forecasting of heart disease.

Explainable Artificial Intelligence (XAI) techniques must be used to improve transparency in ML predictions. This would help clinicians understand the reasoning behind a risk Assessment and thereby build trust and make informed decisions.

Overall, there is a lot of potential for improving early detection, tailored therapy, and clinical decision support through ML research in the prediction of cardiac disease. Researchers hope to make great achievements against heart disease, as well as improve patient outcomes and lower healthcare costs, by harnessing the power of ML.