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**Developing an Explainable Machine Learning Based – Thyroid Disease Prediction Model****Gyanendra Chaubey***Rajkiya Engineering College, Banda, India*

Healthcare and medicine are key areas where machine learning algorithms are widely used. The medical decision support systems thus created are accurate enough; however, they suffer from the lack of transparency in decision making and shows a black box behavior. However, transparency and trust are significant in the field of health and medicine, and hence, a black box system is sub optimal in terms of widespread applicability and reach. Hence, the explainability of the research makes the system reliable and understandable, thereby enhancing its social acceptability. The presented work explores a thyroid disease diagnosis system. SHAP, a popular method based on coalition game theory, is used for interpretability of results. The work explains the system behavior both locally and globally and shows how machine learning can be used to ascertain the causality of the disease and support doctors to suggest the most effective treatment of the disease. The work not only demonstrates the results of machine learning algorithms but also explains related feature importance and model insights.

**Biography**

Gyanendra Chaubey has completed his Bachelors of Technology in Information Technology from Rajkiya Engineering College, Banda, India. He is working as Software Engineer in HCL Technologies, India and Data Science Coach in BoardInfinity, India. He has published 5 papers in reputed journals and conferences. His area of interest is Machine Learning, Deep Learning, Data Mining, and Artificial Intelligence.