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Course : M.Tech – CSE(AIML)

Project title : Multimodal Multi-disease image classification

Summary :

Traditionally, most AI-based healthcare solutions focus on single-disease detection, such as only pneumonia from chest X-rays or only brain tumors from MRI scans. These systems are limited because in real-world scenarios, hospitals deal with multiple diseases across different domains and patients often present with both clinical data and imaging data. This lack of a unified, multimodal system reduces efficiency and creates the need for multiple isolated tools, making clinical adoption difficult.

In this project, I am presenting a multimodal multi-disease classification system that combines both medical images and patient information to classify different diseases through a single platform. The solution is designed with a custom CNN for image data and a lightweight neural network for patient data, fused together for improved prediction accuracy. Deployed in a Streamlit application with disease-specific tabs, this system not only standardizes the workflow but also provides clinicians with an easy-to-use, scalable, and early diagnostic tool.

The expected outcome is a model that improves diagnostic support across various conditions. It will be more scalable, interpretable, and clinically useful, especially for early disease detection , decision support, and second opinion for patients.