2023 Summer CSE438: A Hybrid Approach to Classify Retinal Disease using Explainable AI

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Abstract:
This research paper presents a hybrid approach to classify retinal diseases using Explainable Artificial Intelligence (XAI). The goal is to develop a model that can accurately detect and diagnose retinal diseases, such as diabetic retinopathy, using a combination of machine learning and deep learning techniques. The paper includes data analysis, prototype implementation, and result analysis to evaluate the performance of the proposed approach.

Introduction:
Retinal diseases including diabetic retinopathy pose a significant threat to vision health nowadays. Early detection and proper diagnosis of these diseases are crucial for treatment and timely intervention. Artificial intelligence techniques like machine learning and deep learning have brought outstanding outcomes in the segmentation and classification of retinal diseases. However, the need for interpretability in AI models hinders their adoption in clinical settings. Explainable AI aims to address this limitation by providing insights into the decision-making paths of AI models.Hussain et al. (2018)