Automated Early Identification of Infant Visual Impairment Using AI-Assisted Visual Screening

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Abstract: This study delves into the critical realm of early visual impairment detection in children, emphasizing the urgency of timely identification for prompt intervention and successful treatment. Leveraging the promising capabilities of machine learning, particularly in the context of medical fields like ophthalmology, the research aims to explore the potential of AI-driven techniques in identifying vision impairment among infants. The central objective of this research paper is to develop a robust and reliable system that effectively analyzes and interprets visual screening data, enabling the early detection of potential anomalies. Through the integration of advanced image processing methodologies and classification algorithms, the proposed approach seeks to enhance both the precision and speed of identifying visual impairment in children.

By facilitating early intervention and consequently improving outcomes for visually impaired children, the study endeavors to contribute to the realization of an automated and cost-effective screening tool. This envisioned tool holds the promise of seamless integration into existing healthcare systems, thereby not only advancing the field of pediatric ophthalmology but also potentially revolutionizing the way visual impairment is addressed in early childhood.

Keywords: Visual Impairment; Infant Vision; Machine Learning; Early Detection; Image Processing.