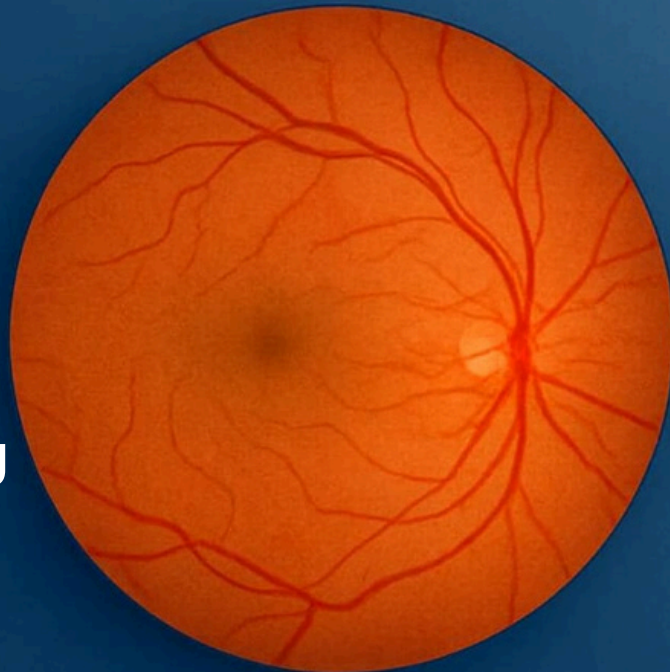


LFA-Net: A Lightweight Platform for Proactive Retinal Health Monitoring



Overview

The LFA-Net project aims to revolutionize retinal image analysis by developing a lightweight, AI-powered platform for retinal vessel segmentation. This solution addresses the critical need for a diagnostically reliable and computationally efficient model, particularly for use in resource-constrained clinical environments like mobile ophthalmology units and point-of-care diagnostics. By leveraging a novel network architecture, LFA-Net provides high-performance segmentation while maintaining a minimal computational footprint. We are seeking investment to transform this groundbreaking research into a scalable, real-world platform for early disease diagnosis.

Solution & Implementation

Our proposed solution is based on the LFA-Net, a lightweight segmentation model that incorporates a new Vision Mamba-inspired attention module called LiteFusion-Attention.

Significance

- Delivers a practical diagnostic tool for early detection of retinal and systemic diseases.
- Provides an affordable, deployable AI solution for low-resource healthcare settings.
- Bridges the gap between research and real-world adoption of lightweight AI.
- Contributes to global efforts for accessible, point-of-care diagnostics.

Expected Outcomes

- Delivers a practical diagnostic tool for early detection of retinal and systemic diseases.
- Provides an affordable, deployable AI solution for low-resource healthcare settings.
- Bridges the gap between research and real-world adoption of lightweight AI.
- Contributes to global efforts for accessible, point-of-care diagnostics.
- Refine deployment for low-resource environments and regulatory compliance.