Open Source Research in Retinal Imaging

Objective

Develop an open source and self-service platform for retinal image storage and analysis to detect the early stages of multiple diseases.

Principal Investigators

Salim Semy
ssemy@mitre.org

Harry Sleeper
sleeper@mitre.org

Hypothesis

Automated diagnostics using retinal imaging can provide a non-invasive, safe, and scalable means for early detection of a broad class of diseases.

(1) Retinal imaging can be used to detect subtle retinal changes that are correlated with cardiovascular, cerebrovascular, and metabolic diseases.

(2) Early detection of retinal changes can provide earlier warning for diseases compared to traditional detection techniques.

MITRE
Working in the Public Interest
http://www.mitre.org

December 2010

Technical Approach

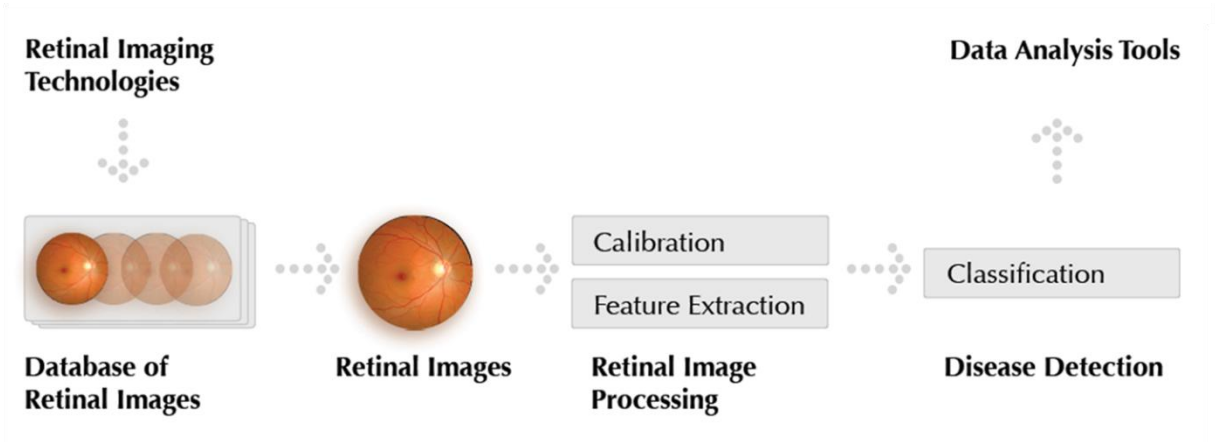
Establish an open community standard for retinal image and health metadata.

Develop an open source information sharing platform to improve public access to de-identified clinical and research datasets.

Promote the development of open source image processing algorithms and data analysis tools.

Provide a basis for future longitudinal studies to investigate novel predictors for multiple diseases.

EyesFirst Platform (under development)



Collaboration Opportunities

We are actively seeking collaborators to define a standard retinal image metadata specification and prototype the image registration and image usage process. If interested, please contact us.