



## CLSA Approved Project

**Applicant**

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**Project Title**

Improving the accuracy of AI/ML diagnosis

**Project Summary**

The most common artificial intelligence and machine learning applications in ophthalmology include identifying anatomical structure abnormalities from retinal images to aid disease classification. However, significant concern has been around disregarding essential components of proper study design and data collection, rendering findings invalid due to confounding bias: association does not imply causation. Therefore, a significant paradigm shift from associational to causal artificial intelligence and machine learning approaches is needed. We will focus our effort on theorizing and examining the prevalence of co-occurring factors that would allow us to more richly characterize the conditions and architecture that underlie specific risk factor associations. Therefore, it is important to develop artificial intelligence and machine learning models that can deliver new insight into complex interactions, non-linearities, and the importance of trends in the explanatory variables.

**Keywords**

Metabolism, Cancer, Aging, Steroids, Uronic acid pathway