# Image Classification for Age-related Macular Degeneration Screening Using Hierarchical Image Decompositions and Graph Mining

## ABSTRACT

Age-related Macular Degeneration (AMD) is the most common cause of adult blindness in the developed world. This paper describes a new image mining technique to perform automated detection of AMD from color fundus photographs. The technique comprises a novel hierarchical image decomposition mechanism founded on a circular and angular partitioning. The resulting decomposition is then stored in a tree structure to which a weighted frequent sub-tree mining algorithm is applied. The identified sub-graphs are then incorporated into a feature vector representation (one vector per image) to which classification techniques can be applied. The results show that the proposed approach performs both efficiently and accurately.