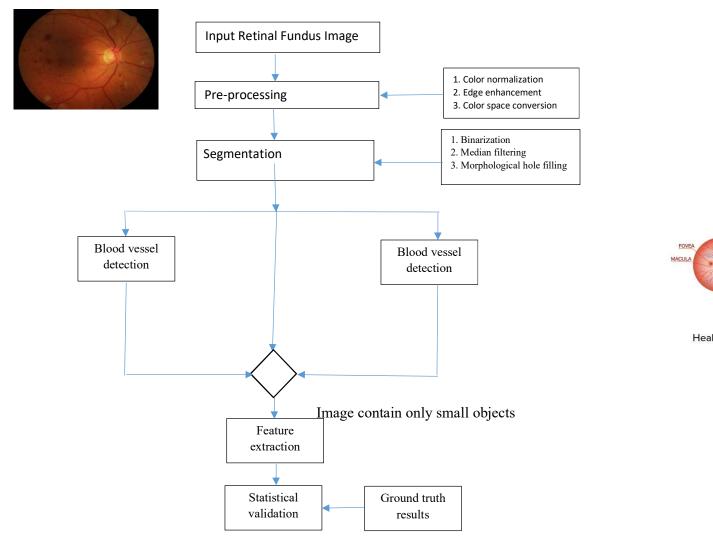## SOLUTION ARCHITECTURE

DEEP LEARNING FUNDUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY

Input Retinal Fundus Image

Pre-processing

1. Color normalization
2. Edge enhancement
3. Color space conversion

Segmentation

1. Binarization
2. Median filtering
3. Morphological hole filling

Blood vessel detection

Blood vessel detection

Image contain only small objects

Feature extraction

Statistical validation

Ground truth results

RETINOPATHY

Healthy Eye   Eye with Retinopathy

HEMORRHAGE