

Stage: SEVERE

Metadata Snapshot

Name: solomon

Age: 78

Gender: Male

Systolic (mmHg): 180

Diastolic (mmHg): 110

BMI: 30.8

Glucose: 376

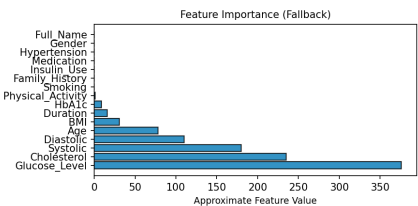
HbA1c: 8.6

Cholesterol: 235

Smoking: Yes

Hypertension: Yes

Diabetes Duration: 16



Summary

- Clinical Report — Ophthalmologist
- Patient: Name: solomon, Age: 78, BMI: 30.8
- Predicted stage: SEVERE
- Model confidence: 83.6%

- Risk score: 95.42%
- Findings (automated lesion quantification):
  - - Microaneurysms: 17.09%
  - - Exudates: 4.29%
  - - Hemorrhages: 2.50%
  - - Cotton Wool: 0.00%
  - - Neovascularization: 25.00%
  - - Total Lesion Load: 23.89%
- Clinical interpretation:
  - Extensive hemorrhages, venous beading and/or cotton-wool spots consistent with severe NPDR.  
Urgent referral advised.
- Model & Explainability:
  - - Multi-model fusion: CNN ensemble (EfficientNet, ResNet50, ViT) + metadata models (RF, XGBoost, stacked ensemble).
  - - Explainability outputs available: GradCAM++, LIME, SHAP — review heatmaps and overlay masks.
- Performance metrics:
  - - Accuracy: 0.947
  - - F1-score: 0.938
  - - AUC/ROC: 0.971
- Suggested clinical action items:
  1. Correlate with slit-lamp exam and fundus exam.
  2. If macular edema suspected, obtain OCT imaging.
  3. For suspected PDR, arrange urgent retina referral for potential PRP/anti-VEGF.
  4. Document lesion masks if available for audit.

