

Stage: SEVERE

Metadata Snapshot

Name: solomon

Age: 78

Gender: Female

Systolic (mmHg): 180

Diastolic (mmHg): 110

BMI: 30.8

Glucose: 376

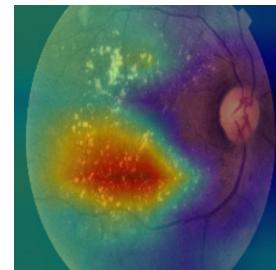
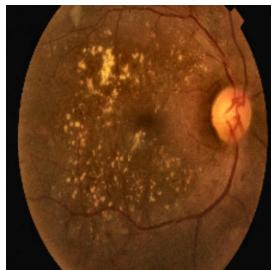
HbA1c: 8.6

Cholesterol: 230

Smoking: Yes

Hypertension: Yes

Diabetes Duration: 16

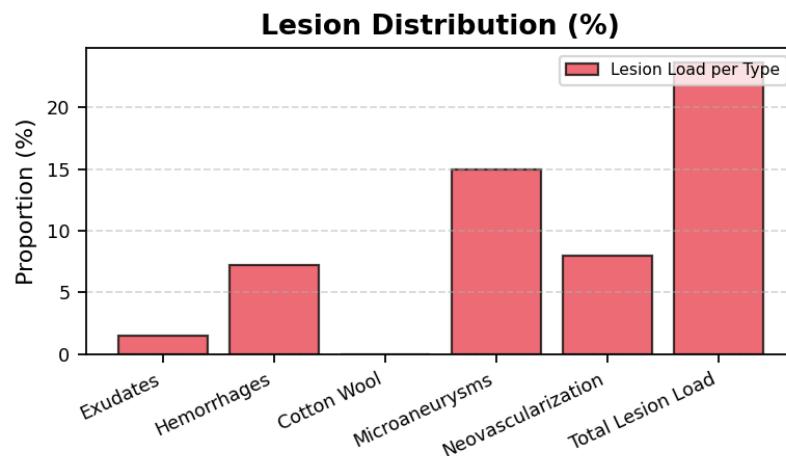


Clinical Insights

- 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: 14.99%
 - Exudates: 1.44%
 - Hemorrhages: 7.17%
 - Cotton Wool: 0.00%
 - Neovascularization: 7.99%
 - Total Lesion Load: 23.61%
- 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.



Model Metrics

- Accuracy: 0.947

Model Metrics

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