

Clinical Report

Generated: 2025-12-15 08:54:16

Stage: SEVERE

Metadata Snapshot

Name: Sebastian

Age: 78

Gender: Male

Systolic (mmHg): 160

Diastolic (mmHg): 97

BMI: 29.1

Glucose: 234

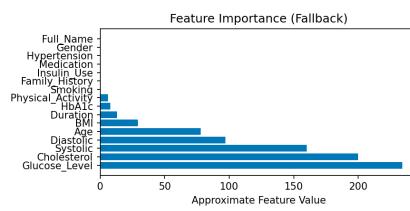
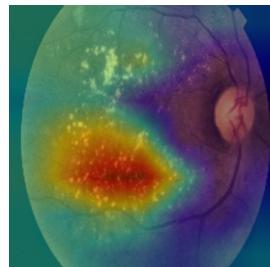
HbA1c: 7.8

Cholesterol: 200

Smoking: Yes

Hypertension: Yes

Diabetes Duration: 13



Summary

- Clinical Report — Ophthalmologist
- Patient: Name: Sebastian, Age: 78, BMI: 29.1
- Predicted stage: SEVERE
- Model confidence: 83.6%

Summary

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- Risk score: 95.42%
- Findings (automated lesion quantification):
 - Microaneurysms: 24.07%
 - Exudates: 2.08%
 - Hemorrhages: 2.97%
 - Cotton Wool: 0.00%
 - Neovascularization: 30.00%
 - Total Lesion Load: 29.13%
- 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.

