

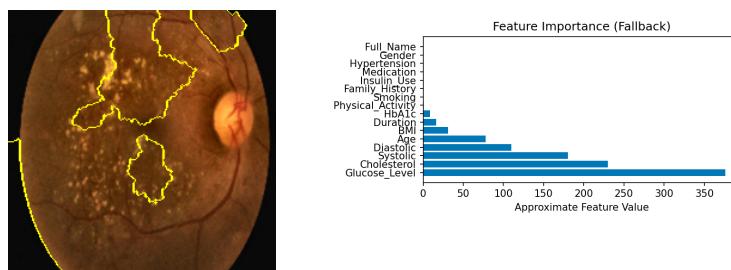
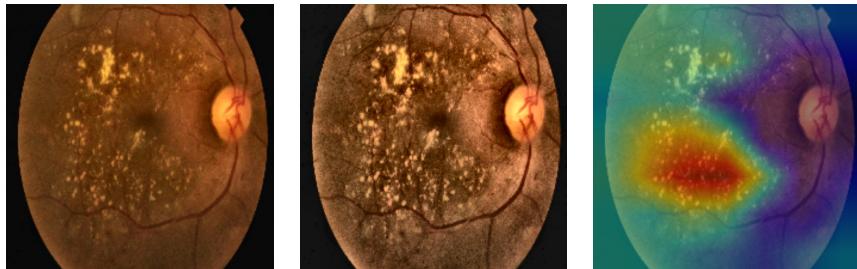
Clinical Narrative

Generated: 2025-11-12 01:08:35

Stage: SEVERE

Metadata Snapshot

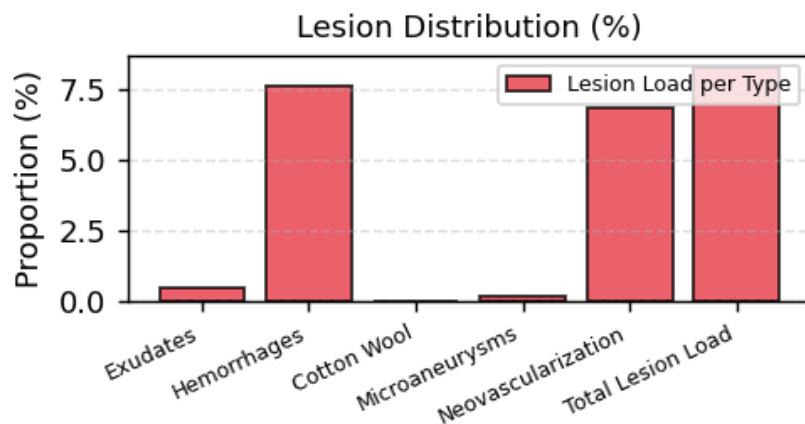
Name:	solomon
Age:	78
Gender:	Female
Systolic (mmHg):	180
Diastolic (mmHg):	110
BMI:	30.8
Glucose:	376
HbA1c:	8.6
Cholesterol:	230
Smoking:	Yes
Hypertension:	Yes
Diabetes Duration:	16



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: 16.10%
 - - Exudates: 49.30%
 - - Hemorrhages: 7.65%

- Cotton Wool: 0.00%
- Neovascularization: 6.86%
- Total Lesion Load: 8.31%
- 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

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