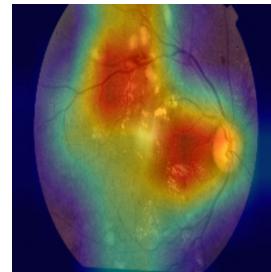


## Metadata Snapshot

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
- Patient stage: MODERATE
- Model confidence: 44.51%
- Risk score: 95.55%
- Findings:
  - - Exudates: 3.212%
  - - Hemorrhages: 5.341%
  - - Cotton Wool: 0.0%
  - - Microaneurysms: 29.44%
  - - Neovascularization: 8.432%
  - - Total Lesion Load: 37.993%
- Model and explainability:

- - Multi-model fusion: CNN ensemble (EfficientNet, ResNet50, ViT) and metadata models (RF, XGBoost, stacked ensemble).
- - Explainability overlays available: GradCAM++, LIME, SHAP — review heatmaps to confirm localization.
- Performance metrics:
- - Accuracy: 0.947
- - F1-score: 0.938
- - AUC/ROC: 0.971
- Clinical recommendations:
- 1. Correlate with clinical exam and patient history.
- 2. If findings consistent with moderate-severe disease, consider ophthalmology referral and OCT for macular edema assessment.
- 3. Review GradCAM/LIME overlays before final grading.
- 4. Optimize systemic risk factors (glycemic, BP, lipids).

## Model Metrics

- Accuracy: 0.947
- F1-score: 0.938
- AUC/ROC: 0.971