

## Stage: SEVERE

## ಮಾಹಿತಿ ಸಂಗ್ರಹ

ಹೆಸರು: Sebastian

ವಯಸ್ಸು: 78

ಲಿಂಗ: Male

ಸಿಸ್ಟೋಲಿಕ್ (mmHg): 160

ಡಯಾಸ್ಟೋಲಿಕ್ (mmHg): 97

BMI: 29.1

ಗ್ಲೂಕೋಸ್: 234

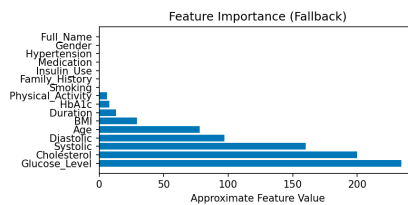
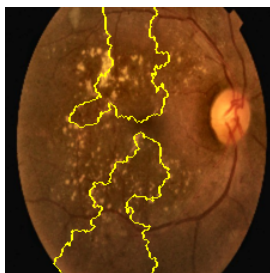
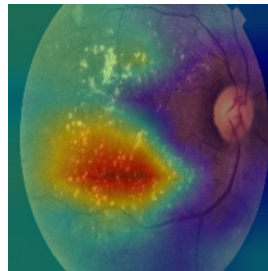
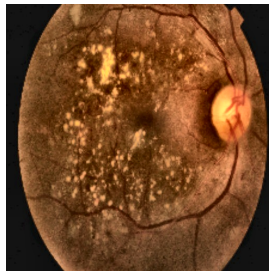
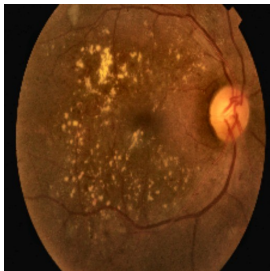
HbA1c: 7.8

ಸಿಬಿಎಂ: 200

ಧೂಮಪಾನ: Yes

ರಕ್ತದ್ರವ್ಯ: Yes

ಮಧುಮೇಹ ಅವಧಿ: 13



## ಸಾರಾಂಶ

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

- 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.

