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LinkedIn | GitHub

Career Objective

Aspiring Computer Vision Engineer with hands-on experience in building interpretable deep learning systems for medical imaging. Seeking to contribute to impactful AI solutions using a strong foundation in CNNs, transfer learning, and end-to-end ML pipelines.

Technical Skills

- **Languages:** Python
- **ML/DL Frameworks:** TensorFlow, Keras, Scikit-learn
- **CV Tools:** OpenCV, scikit-image, PIL
- **Techniques:** Supervised Learning, CNNs, U-Net, Transfer Learning (MobileNet, ResNet, EfficientNet, Inception)
- **Visualization & Analysis:** Numpy, Pandas, Matplotlib, Seaborn
- **Deployment:** FastAPI, Pydantic, Git
- **Environments:** Jupyter, VS Code, Google Colab

Projects

Fundus Disease Classifier (GitHub)
Classified fundus images into Cataract, Glaucoma, Diabetic Retinopathy, and Normal. Achieved 91% test accuracy using fine-tuned MobileNetV2 (baseline CNN: 25%). Ensured data quality and interpretability via Grad-CAM. Built for reproducibility and clinical prototyping.

Retinal Vessel Segmentation (GitHub)
Designed U-Net architecture with EfficientNetB4 encoder to segment blood vessels from fundus images. Achieved ~95.6% pixel accuracy. Used BCE loss, IoU for evaluation. Produced interpretable visual overlays for potential clinical application.

Heart Disease Prediction
Built ML pipeline on `heart.csv` dataset to predict cardiovascular risk using SVM with GridSearchCV tuning. Included preprocessing, scaling, and evaluation. Achieved ~84% accuracy on test set.

Simple Reflex AI Agent (GitHub)
Wrapped MobileNetV2-based CNN into a Perceive → Decide → Act agent for triaging fundus images. Modular structure includes sensing, decision logic, simulation, and action. Logs include image classification and confidence scores.

Rank Predictor API (FastAPI) (GitHub)
Deployed FastAPI service to predict student ranks from subject scores using a trained regression model. Integrated input validation with Pydantic and model inference using pickled pipeline. Swagger UI enabled interactive testing.

Education

Master of Computer Applications (MCA), Aurora PG College, Hyderabad — *Expected 2025*
B.Com (Computer Applications), AV College, Hyderabad — *2023*

Certifications

- HackerRank Python (Basic): Certificate

GitHub Profile

https://github.com/Amaan-developpeur