Rohan Mulay

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Education

PES University Bengaluru, Karnataka
Bachelor of Technology in Computer Science and Engineering *2022 – 2026*

Primus Public School Bengaluru, Karnataka
Pre University College *2020 – 2022*

Experience

AI Engineer Intern October 2025 – Present
BYTES *Bengaluru, Karnataka*

- Refined and expanded the perception stack for 2-wheeler ADAS by integrating forward collision warning and blind spot monitoring via multi-camera sensor fusion.
- Deployed computer vision models on edge devices (NVIDIA Jetson Orin NX), utilizing TensorRT optimization to achieve low-latency inference.
- Developed monocular depth estimation pipelines using Deep Learning architectures, validating performance against ground truth data.
- Applied homography transformations to project camera frames into real world coordinates, improving object localization accuracy.
- Built lightweight object detection pipelines using YOLOv11 and optical flow driven motion analysis for efficient deployment.

ADAS & Machine Learning Intern April 2025 – October 2025
Moonrider.ai *Bengaluru, Karnataka*

- Contributed to the development of an ADAS system for autonomous electric tractors, focusing on robust off-road perception.
- Developed a semantic segmentation pipeline for lane and drivable area detection, utilizing data augmentation to handle diverse terrain.
- Optimized the perception pipeline for embedded systems, ensuring reliability in real-time operations.
- Developed ensemble models and LSTM-based architectures for accurate SoC/SoH prediction and anomaly detection using multivariate time-series data.

Projects

Cloud Storage System using Socket Programming
Python, OpenSSL, Virtual Machines, Linux

- Architected a secure, multi-threaded client-server system for remote file upload, download, delete, and listing.
- Implemented multi-client concurrency using threading for scalability and responsiveness.

Integrative Multi-Omic Biomarker Discovery for NAFLD Progression
Python, Neural Networks, TensorFlow

- Built a multi-omic ML framework using GNNs and co-attention to predict NAFLD progression from MRI and multi-omic profiles.
- Used SHAP and LIME for interpretability to enable personalized biomarker discovery.
- Designing personalized risk assessment models to classify NAFLD patients enabling tailored treatment recommendations.

Configurable Cache Simulator with Multilevel Support
Python, Linux

- Designed a multi-level cache simulator supporting Direct Mapped, Fully Associative, and Set Associative caching.
- Integrated configurable replacement policies (LRU, FIFO, Random) and simulated hit/miss rates using memory traces.

Technical Skills

Languages	Python, C/C++, Java, SQL, JavaScript, HTML/CSS
Deep Learning	PyTorch, TensorFlow, TensorRT, ONNX, YOLO, OpenCV, Scikit-learn, MONAI
Edge AI & Tools	NVIDIA Jetson (Orin), CUDA, Docker, Git, MLflow, Linux
Web Frameworks	React, Node.js, FastAPI, Selenium