Raghav Mehta

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GitHub | LinkedIn

Summary

Computer Science student specializing in **computer vision** and **deep learning** with hands-on experience building production AI systems including real-time detection models and full-stack applications. Proficient in **PyTorch, Ultralytics**, and deployment on edge devices (Raspberry Pi, NVIDIA Jetson) and cloud platforms (AWS, Azure, GCP).

Education

Rutgers University, New Brunswick, NJ **Expected May 2029**
Bachelor of Science, Computer Science

Work Experience

DormDish.ai **Aug 2025 – Present**
Founder & Lead Engineer

- Architected and deployed a full-stack mobile application using RESTful API design and object-oriented programming principles to serve college students with personalized meal planning from university dining hall menus
- Developed a meal plan web scraper using BeautifulSoup and Selenium, applying algorithms to automate extraction of university dining hall menus from multiple sources
- Engineered a FastAPI backend hosted on Vercel with Gemini API integration for intelligent meal plan generation using AI techniques
- Used computer vision frameworks torchvision and Ultralytics to create a food detection model, detecting food from user pictures and providing calorie count estimates

RigDetailling.com **Mar 2025 – Present**
Lead Full-Stack Engineer

- Collaborated with founder to gather user requirements and built a responsive web application using Flask and Python for an automotive detailing business with customer booking system
- Developed a backend RESTful API for appointment scheduling, customer management, and service catalog, implementing database design principles

Projects

Jetson Wildlife Detection System | *Python, PyTorch, YOLO, SAM3, TensorRT, OpenCV, Arduino*

- Engineered edge AI system for NVIDIA Jetson Orin Nano with custom YOLO model detecting 14+ animal species
- Implemented TensorRT optimization for real-time inference performance on edge hardware
- Integrated Arduino for servo control, motion sensors, and ultrasonic distance measurement

Fire Detection System | *Python, PyTorch, Ultralytics, OpenCV*

- Engineered real-time fire detection model using YOLOv8 and Ultralytics framework achieving 92% mAP on custom dataset
- Implemented OpenCV preprocessing pipeline for video frame extraction and image augmentation (rotation, scaling, brightness adjustment)
- Applied PyTorch transfer learning on pretrained YOLO weights with custom fire/smoke classes, reducing training time by 60%

CCTV Person Detection | *Python, Ultralytics, YOLO Pose*

- Developed YOLO11n-Pose model for detecting standing/laying persons in CCTV footage

- Trained model on RTX 3090 for efficient pose estimation in surveillance applications

Fruit Freshness Classification | *Python, PyTorch, EfficientNet*

- Built EfficientNet-based classification model to determine fruit freshness (fresh vs. rotten)

Network RAG API | *Python, FastAPI, LLM, RAG*

- Developed FastAPI-based local LLM with retrieval-augmented generation for document querying

Skills

Languages: Python, SQL, HTML, CSS, Arduino C++
ML/CV: PyTorch, TensorFlow, scikit-learn, Ultralytics (YOLO), OpenCV, TensorRT, ONNX
Web: FastAPI, Flask, BeautifulSoup, Selenium, Expo
Tools: Git, Docker, AWS, GCP, Azure, Vercel, Supabase, Raspberry Pi, NVIDIA Jetson, Jupyter, Google Colab
Practices: RESTful API Design, OAuth Authentication, Database Design, OOP, Algorithms, Data Structures

Certifications

Finetuning Large Language Models – DeepLearning.AI (Aug 2025)
NOCTI Computer Science Excellence – NOCTI (Jun 2024)
Adult and Pediatric First Aid/CPR/AED – American Red Cross (Jun 2024)