Yashveer Jain

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With a solid 2-year background as a Machine Learning Engineer at AIMonk Labs, I've significantly improved OCR accuracy and enhanced car detection models, showcasing my commitment as a quick learner and hardworking professional. Currently pursuing a master's at the University of Maryland, I'm eager for a full-time role in Machine Learning.

PROFESSIONAL EXPERIENCE

Machine learning Engineer - AIMonk Labs, Bengaluru, India Aug 2020 - Aug 2022

- Worked on OCR task where implemented transform using PyTorch for a math mojo project, achieving a 60% accuracy boost through synthetic latex OCR data.
- Enhanced car detection AI for parking spots by 20% using DeepLabv3 segmentation model and added features for improved accuracy with YOLOv7.
- Led the development of an advanced testing setup for AI models. Integrated a FastAPI backend with AWS and Azure DevOps, significantly improving efficiency for both QA and development teams in testing machine learning models.

RESEARCH AND INTERNSHIP EXPERIENCE

University of Maryland, College Park, USA Aug 2022 - ongoing

- **Graduate Teaching Assistant (Fall 2023):** ENPM667 - Control of Robotic Systems, part of master's program at UMD.
- **Research Assistant (Spring 2023):** Developed software for small-scale autonomous robots (<6 cm) at Perception and Robotics Group. Utilized ROS to establish communication between sensors and processors under Professor Yiannis Aloimonos' guidance.

Embedded AI Intern - Renesas Electronics, USA May 2023 – Aug 2023

- Worked with various sensors and embedded devices such as Renesas RA6 Series and RL78, to train and deploy AI models, using embedded C, enabling them to operate effectively in real-world scenarios.

Research Intern - Swaayatt Robotics, India Jan 2020 – May 2020

- Worked on the tracking algorithm like the Kalman filter, and particle filter with the optical flow with openCV, to identify the sustainability of these algorithms on the ADAS system for tracking vehicles and pedestrians.

Research Intern - Omax Auto, India May 2019 – July 2019

- Developed a program for automatic inspection of the part holes using a Machine Vision algorithm, resulting in an increase in the company's production, for higher and faster quality inspection.

EDUCATION

Master of Engineering (Robotics) (GPA:3.97/4) Expected - July 2024

University of Maryland College Park, USA

Control System, Robot Modelling, Software Development for Robotics, Robot Planning, Robot Perception, Cognitive Robotics, Becoming a Design Thinker, NLP (Natural Language Programming), Visual Learning & Recognition, Deep Learning.

Bachelor of Engineering (Mechatronics) (GPA:9.44/10) July 2016- July 2020

Manipal University Jaipur, Rajasthan, India

SKILLS AND LANGUAGES

Production Skills: Microsoft Office, Linux, Git, Docker, Microsoft10, AWS - Lambda, S3, SQS, EC2; Azure - devops,VM, google Apps.
Machine Learning: Computer Vision, Machine Learning, Deep Learning, NLP, machine learning algorithms (linear regression, SVM, logistic regression), Reinforcement Learning and Genetic Algorithms, TensorFlow, PyTorch, Pandas, matplotlib.
Programming Languages: Python, C, C++, Ladder programming, Embedded C, MATLAB Simulink, Flutter & Dart, SQL
Others: ROS (Robot Operating System), ROS2 Humble, SLAM, Heuristic and Graph-based search algorithms, FastApi, Mqtt, Path planning, OpenCV, LQR & LQG Control system, Nexus Vicon, Programmable Logic Controller, AWS SageMaker.

PROJECTS

Autonomous Aerial Filming - GitHub Jan 2023 - May 2023

- Designed an architecture for realistic aerial filming using YouTube data and autonomous drone movement, specializing in deep learning for camera pose prediction.

Leader Follower - GitHub Jan 2023 - May 2023

- Made a leader-follower tracking robot with automatic obstacle detection and coordination for seamless platoon movement, with tracking using computer vision.

Home Automation - GitHub Jun 2021 - Aug 2021

- Established a home server with FastAPI, MQTT, Arduino, Raspberry Pi, and SQLite for streamlined device connectivity.

UnDeepVO (Unsupervised Deep Learning Visual Odometry) - GitHub Jan 2020 - May 2020

- Implemented visual odometry using deep learning to handle depth estimation and rotation using a monocular camera.

Third eye - GitHub Oct 2019 - Dec 2019

- A device created for blind people to navigate around the world, using computer vision, and Text2speech.

Search and Rescue Drone – GitHub Jul 2019 - Oct 2019

- Developed an AI Drone to detect human beings in hazardous areas and send their locations to the Rescue team.

AWARDS AND ACTIVITIES

- Secured 1st Runner up in Infosys Competition Techazooka Dec 2019
- Best project award in Manipal Navonmesh 2019 Nov 2019