Sanjay H

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Education

Vellore Institute Of Technology, Chennai 2026
B.Tech. Computer Science *CGPA 8.68*

Indian Institute Of Technology, Madras 2025
Foundation Graduate of BS in Data Science and Applications

P. S. Senior Secondary School 2022
CBSE Senior Secondary *94.2%*

Technical Skills

Languages: Python, C/C++, Java, JavaScript
ML/CV: PyTorch, TensorFlow, YOLOv9, OpenCV, SLAM
Web: Three.js, React, Django, REST APIs
Tools: Docker, AWS, ROS, Git, Linux
Processing: Point Clouds, Image Enhancement, 3D Visualization

Experience

Mafkin Robotics Private Limited Feb 2025 - Present
Software Intern *Chennai, India*

- Developed 3D ship surface visualization system using Three.js with real-time coordinate plotting
- Implemented hybrid underwater image enhancement combining CNN architectures (ResNet50) with traditional methods like Gray World Algorithm
- Built biofouling detection system using YOLOv9 with 92% mAP on marine dataset
- Optimized SLAM pipelines using ROS with Gmapping and ORB-SLAM3 for underwater navigation

Automotive Robotics India May 2023 - Jun 2023
Software Intern *Chennai, India*

- Developed ROS-based state machines for autonomous wall finishing robots
- Created battery monitoring UI used in 15+ field deployments

Projects

Wild Animal Intrusion Detection System Nov 2023
Faster R-CNN, TensorFlow, Docker

- Developed Docker-containerized solution for real-time detection using Faster R-CNN with EfficientNetB0 backbone
- Implemented non-max suppression and region proposal network for accurate detection
- Achieved 85% mAP on custom dataset of 5,000+ wildlife images using active learning

Algorithm Visualizer Oct 2023
Python, Matplotlib, NetworkX

- Developed interactive visualization tool for 10+ algorithms including Dijkstra's and BFS/DFS
- Created animated visualizations using Matplotlib and NetworkX libraries
- Implemented GUI with Tkinter for user input and parameter configuration

Serverless Blog Platform Dec 2023
AWS, Flask, DynamoDB

- Architected serverless application using AWS Lambda, API Gateway, and S3
- Integrated AWS Comprehend for real-time content moderation
- Efficiently used storage by leveraging S3 for image storage and DynamoDB for blog storage