

Darshi Dwivedi

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Work Experience

Project Engineer

June 2023 – March 2025

Encon Systems

Gurgaon, India

Smart Palletizing System Development (ROS2)

- Developed an **automated smart palletizing** system using **ROS2**, optimizing robot motion and placement efficiency.
- Integrated **MoveIt!** for motion planning and improved **trajectory execution** to minimize cycle time.
- Implemented **pallet pattern generation logic**, reducing manual intervention and increasing stacking precision.

Object Detection (TensorFlow, OpenCV, Raspberry Pi)

- Built an **object detection system** using **TensorFlow and OpenCV** to identify and track multiple objects in real time.
- Deployed the model on a **Raspberry Pi**, ensuring lightweight and efficient edge processing.
- Integrated the detection system with **robotic automation**, triggering warnings based on object classification.

SCADA-Based Machine Data Visualization

- Developed a **SCADA system** for real-time **monitoring and visualization** of machine performance data.
- Integrated **PLC communication** to track system health, error logs, and operational status.

Celebal Technologies | Node.js Intern

June 2022 – July 2022

Engaged in a learning-based internship, actively working on assigned tasks to gain hands-on experience.

Technical Skills

Languages: Python, C++

Robotics & Automation: Universal Robots (UR), SCADA

Tools & Libraries: ROS, MoveIt, TensorFlow, OpenCV, Docker, Git & GitHub, Ubuntu

Simulation: RViz, Gazebo

Projects

Vision-Based Conveyor Belt Sorting System

- Tech Stack: ROS 2, OpenCV, MoveIt, Gazebo
- Developed a system where a UR5 arm sorts objects on a moving conveyor using OpenCV.

Path Planning and Obstacle Avoidance for UR Robot

- Tech Stack: ROS 2, MoveIt, RRT (Rapidly-exploring Random Tree), Gazebo
- Plan and execute a motion path for a UR robot arm while avoiding obstacles.

Education

BTech in ECE | ARYA COLLEGE OF ENGINEERING & IT, KUKAS, 2019-2023

CGPA: 8.65

12th | Dungarpur Public School, 2017-2018

Percentage: 66.4

10th | Kendriya Vidyalaya Dungarpur, 2015-2016

CGPA: 8.4