

OHM VAGHELA

Indian Institute of Technology Bhubaneswar

@ von10@iitbbs.ac.in

+91 9157266661



EDUCATION

B.Tech. Dual Degree in Mechanical and Manufacturing Engineering
Indian Institute of Technology Bhubaneswar

2019 – 2024

CGPA: 8.4/10

EXPERIENCE

Software Development Intern | Accio Robotics

Tech. Stack: C++, Python, ROS

May 2023 - July 2023

- Developed a **ROS2 localization package** using C++ and Python, integrating odometer sensor data, and QR code locations with the Extended Kalman Filter algorithm.
- Implemented a black-box solution** for seamless integration, enabling precise robot localization without requiring in-depth algorithm knowledge.
- Designed and developed** an algorithm to **optimize order picking** in a warehouse with narrow aisles, ensuring efficient navigation and coordination of multiple robots.

PROJECTS

Auto Billing App

- Developed a comprehensive AutoBilling application using **Node.js**, **Express.js** for the backend, **React.js** for the frontend, and **MongoDB** as the database.
- Implemented order generation and automated email payment links, integrating Razorpay for secure transactions.
- Added features for sending payment reminders via email to customers with outstanding bills.
- Employed **JWT** for secure authentication and authorization.
- Utilised **docker** to containerise application and **Kubernetes** for orchestrating and managing container

Mechanical Simulations Storage App

- Developed a **Mechanical Simulations Storage App** to store and manage various mechanical simulation files.
- Utilized **ReactJS** for the frontend to create an interactive and user-friendly interface.
- Implemented **Django** as the backend framework to handle data storage and management.
- Employed **JWT** for secure authentication and authorization.
- Utilised **docker** to containerise application and **Kubernetes** for orchestrating and managing container

Flipkart Grid Robotics Competition (top 10/10,000 teams)

- Designed and implemented control systems for four **autonomous robots** using **ROS**, Arduinos, and RF modules.
- Developed and executed **image processing(OpenCV)** techniques for **localization of robots** based on overhead camera feed.
- Implemented and optimized **Dijkstra algorithm** for path generation in a swarm of robots.

SKILLS

Programming Languages: C++ JavaScript Python

Web Development: ReactJS NodeJS ExpressJS

MongoDB Django MYSQL HTML/CSS

Docker Kubernetes LLD(Low Level Design)

Simulation and Visulaisation softwares: CoppeliaSim

Gazebo RViZ FoxGlove SolidWorks

Operating Systems: Windows Linux

Other: Image Processing (OpenCV) Operating Systems

Robotics Operating Systems

Database Management System Github

DSA(Data Structures and Algorithms)

Object-Oriented Programming System

POSITION OF RESPONSIBILITY

Governor

Robotics Society, IIT Bhubaneswar

- Led and organized society events, including workshops, competitions, and group projects.
- Managed society budget and resources effectively.
- Mentored and supported enthusiast members to achieve their goals

Representative

Mechanical Batch of 2019, IIT Bhubaneswar

- Communicated effectively between the class, teacher and administration

Tech Coordinator

Team Mechanical General Championship , IIT Bhubaneswar

- Working with the team's driver to develop and practice competition strategies
- Representing the team at technical meetings and events

EXTRACURRICULAR

Associate, Publicity Team

Executed marketing campaigns to promote the festival in various institutes across Bhubaneswar