Mohamed Hisham Sultan Mohamed Ravi

Birmingham, United Kingdom • hishu18@gmail.com • +44 7823715290 • LinkedIn

PROFILE

Motivated MSc Robotics graduate with a strong foundation in mechatronics and hands-on experience across robotic manipulation, automation, and simulation. Skilled in Python, ROS/ROS 2, SOLIDWORKS, and Docker, with experience in developing motion planning algorithms, autonomous systems, and control solutions validated in CoppeliaSim and real-world environments. Experienced through industry internships and academic projects with a balance of technical expertise and practical problem-solving. Eager to contribute to innovative engineering teams, with a focus on robotics, automation, and intelligent systems.

EDUCATION

The University of Manchester Manchester, United Kingdom

MSc in Robotics Sep 2024 – Sep 2025

Key modules: Robotics and Autonomous Systems, Software for Robotics (ROS), Robotic Manipulators, Computer Vision, Machine Learning, and Microcontroller Systems

SRM Institute of Science and Technology Chennai, India

B. Tech in Mechatronics Engineering with specialisation in Robotics Sep 2020 – May 2024

Key modules: Mechanics of Manipulation, Sensors and Signal Conditioning, System Dynamics, Microcontrollers and Embedded systems, Machine Design and Mechanics of Solids and Fluids

WORK EXPERIENCE

Enconsys Private Limited Gurugram, India

Robotics and Automation Engineering Intern Jun 2023 – Jul 2023

- Operated Universal Robots UR3e and UR5e robotic arms to perform precise tasks, strengthening skills in industrial automation and collaborative robotics
- Programmed and optimised motion paths using teach pendant, creating sequences based on waypoints that improved pick-and-place accuracy by 20%
- Designed and simulated basic PLC programs on Allen-Bradley PLCs using ladder logic, successfully linking sensors, actuators, and robotic arms for synchronised task execution
- Integrated Intelligent Actuator (IAI) electric actuators with robotic systems, enabling controlled linear motion and improving automation workflow efficiency

Tapco Pneumatics Chennai, India

Mechatronics and Manufacturing Intern Jul 2022 – Aug 2022

- Facilitated AutoCAD design modifications for mechanical components, contributing to design updates
- Cooperated assembly tasks including fastening mechanical joints, routing pneumatic pipes, and connecting basic electrical interfaces for automated systems
- Assembled and tested 2 types of automatic swing doors using pneumatic circuits and assisted in 5+ functional test cycles per day
- Operated manual lathe machine under supervision to machine 3 cylinder rods with ±0.05 mm tolerance based on provided engineering drawings

PROJECTS

Robotic Manipulator with Custom Gripper for Surgical Tweezer actuation Jun 2025 – Sep 2025

- Designed and developed a custom rack-and-pinion gripper mounted on a UR3e robotic arm for surgical tweezers manipulation
- Implemented Python-based forward and inverse kinematics for motion planning, containerised workflows with Docker for reproducibility, and validated pick-and-place tasks in CoppeliaSim, while analysing performance metrics

Autonomous Colour-Based Object Retrieval and Sorting Robot Sep 2024 – Mar 2025

- Developed a fully autonomous robot capable of navigating, detecting, retrieving and sorting coloured objects autonomously with the help of 2D LiDAR and depth camera using ROS 2 and Python

Feedback Control Algorithm for Position Stabilisation of an Unmanned Aerial Vehicle Mar 2025 – May 2025

- Programmed a cascade PID controller to stabilise the position of a DJI Tello drone using Python
- Implemented and tested the control algorithm on both a custom-built UAV simulator and real-world flight experiments, achieving stable hover and tracking performance under external disturbances

Smart Library Assistant Robot for Book Retrieval Jan 2024 – May 2024

- Developed a fully autonomous library assistant robot from scratch using Python, ROS 2 Navigation Stack, SLAM and dynamic obstacle avoidance that can navigate autonomously and retrieve the user requested book

TECHNICAL SKILLS

Programming: Python, C++, ROS 2 Node Development, Bash, Linux, RSLogix 500
Frameworks/Libraries: ROS, ROS 2, OpenCV, NumPy
Developer Tools: Docker, Git, VSCode, PyCharm, Jupyter Notebook, Arduino IDE
CAD and 3D Design Tools: SOLIDWORKS, AutoCAD, URDF Modelling
Simulation: Gazebo, CoppeliaSim, Simulink, Blender, FluidSIM

WORKSHOPS AND CERTIFICATIONS

- Certified SolidWorks Associate (CSWA) – Dassault Systèmes Jun 2025
- IELTS Overall Band Score: 8.0 Oct 2023
- Robotron workshop – Tech Analogy Apr 2023 – Jun 2023
- Machine Learning course – NPTEL, Indian Institute of Technology Jan 2023 – Mar 2023
- Artificial Intelligence and Machine Learning Algorithm for Electric Vehicles – SRMIST Sep 2022

LANGUAGES

- English – Professional Working Proficiency
- Hindi – Limited Working Proficiency
- Tamil – Native Proficiency