Dhyan Shyam

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Experience

Airbus Defence and Space Nov 2025 – Present
Robotics Software Engineer (Contractor) *Stevenage, UK*

- **Refactored and modularized** a large mission-critical codebase, implementing **CI/CD pipelines** and automated analysis for rover telemetry to ensure software reliability for long-duration missions.
- **Executed hardware-software integration** for a new mobile platform, designing custom rigid mounts to **eliminate sensor noise** and validating performance via rigorous simulation testing.

Lodestar Space May 2025 – Sept 2025
Robotics Engineer *London, UK*

- Led the end-to-end development of a **ROS 2 Humble digital twin** using **RViz**, integrating an industrial **robotic arm**, **motion capture system**, and orbital simulation data to replicate Lodestar's IOSM test bed.
- Designed and implemented **hardware-in-the-loop** motion planning for robotic arm motion and control using **MoveIt**, achieving **millimtere-level positioning accuracy** for satellite imaging applications
- Integrated real-time **motion capture** data into **ROS 2** for closed-loop feedback and established an automated pipeline converting camera position data into executable robot scripts, enabling **complete automation of dataset generation** and significantly streamlining workflows.

Keysight Technologies Jun 2022 – Aug 2023
5G R&D Engineering Intern *Fleet, UK*

- Owned the full development cycle of a **C++ console application** to parse and search XML data from testing logs in accordance with 3GPP specifications, **reducing developer time** to interpret User Equipment capabilities by **80%**.
- Developed and deployed a **Python PyQt desktop application** integrating **Vector Network Analysers**, **Switch Matrices**, and **PXIe** hardware, automating user equipment testing and data visualization **increasing Device Under Test testing efficiency by 40% and reduced test cycle time by 60%**.
- Drove both projects from concept through design, implementation, and deployment, ensuring adoption across the R&D team and alignment with testing workflows. Gained hands-on experience with advanced test equipment, bridging and integrating hardware and software development.

Projects

Low-Cost IoT Water Quality Monitoring System | *IoT, LoRaWAN, ESP32,*

- Drove the design and build of a cost-effective IoT system using **ESP32**, **LoRaWAN**, and modular 3D-printed housing to measure pH, turbidity, TDS, temperature, and light intensity.
- Integrated **GPS** for real-time localisation (sub 3cm positioning) with cloud-based visualisation on **Datacake**, achieving **12.4 km Point-to-Point LoRa** and **7 km LoRaWAN (Plymouth)** range.
- **Reduced costs by 90% of the traditional systems cost**, enabling scalable deployment in agriculture, wastewater management, and drinking water monitoring.

Education

University College London Sept 2024 - Sept 2025
MSc (Hons) in Robotics and Artificial Intelligence (Distinction) • PostGraduate Teaching Assistant *London, UK*

- **Relevant Coursework:** Control and Estimation, Motion Planning, Legged and Soft Robotics, Machine Learning, Computer Vision, Robot Vision and Navigation, Robotic Sensing - Manipulation and Interaction
- **Relevant Projects:** Scene Reconstruction using ORBSLAM2 and COLMAP, Robot Pick and Place using ROS and Franka Panda, Go2 Quadraped control through ROS2, Designed and Created a Circular Soft Robotic Gripper

University of Plymouth Sept 2020 - Jun 2024
BEng (Hons) in Robotics (First Class) *Plymouth, UK*

- **Award:** Tony Rees Memorial Award for Best Application of Technological Skills
- **Award:** Institution of Engineering and Technology Prize for Best Student on an Accredited Course

Technical Skills

Languages: Python, C/C++, MATLAB
Technologies: ROS2, Git/Gitlab/Github, Docker, Onshape / Fusion360, Data Visualisation, OpenCV
Concepts: Embedded Systems, 3D Printing, Machine Learning, Agile Workflow, Jira, CI/CD, Linux/Mac/Windows/WSL