

Darshan Prakash Jain

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EDUCATION

University of Maryland, A. James Clark School of Engineering
Master of Engineering, Robotics CGPA:4.0/4
Mukesh Patel School of Technology Management & Engineering
Bachelor of Technology, Mechatronics, CGPA: 3.57/ 4.0

College Park, MD, USA
May 2023
Mumbai, MH, India
May 2020

TECHNICAL SKILLS

Software tools and languages: Python, C, C++, ROS, MATLAB, Linux, SolidWorks, Fusion 360, Altium, LabVIEW.

Hardware: Raspberry Pi, Arduino, Encoders, STM32 microcontroller, ESP32, oscilloscopes, logic analyzers, multimeters.

WORK EXPERIENCE

Kick Robotics, College Park, MD, USA
Robotics Hardware Intern

September 2022 – Present

- Conceptualized and prototyped advanced electrical circuits for autonomous vehicles, seamlessly integrating sensors, actuators, and control systems, resulting in a significant 15% enhancement in vehicle efficiency.
- Build an embedded system to remotely monitor water bodies, improving monitoring efficiency by 20% by reducing system downtime and product costs by 8%.
- Led design and development of prototypes and production systems, specializing in circuit design, and PCB layout, as well as conducted rigorous system validation and bring-up for optimal performance.
- Led the successful streamlining of hardware and firmware projects to support the company's rapid growth, achieving optimal scalability and efficiency.

Ommo Technologies, Dallas, TX, USA
Mechatronics Intern

June 2022 – August 2022

- Designed 2 and 4-layer PCB schematics and layouts for Ommo products utilizing Altium, ensuring EMI compliance.
- Managed electronic component selection, hardware production, circuit design, and PCB layout while also performing system validation and bring-up. Achieved a 10% reduction in production time and 8% cost savings.
- Partnered with product and engineering teams to author comprehensive documentation on hardware for the company's knowledge base, elevating cross-departmental knowledge sharing.
- Performed comprehensive hardware testing and debugging utilizing advanced laboratory equipment such as oscilloscopes, logic analyzers, and multimeters, ensuring exceptional product quality and performance.

Padmavati Metals Industries Pvt. LTD, Thane, MH, India
Robotics Intern - Manufacturing & Operations

May 2019 – October 2019

- Optimized supply chain procedures and activities, resulting in a 15% reduction in raw material unloading time and a 10% increase in the packaging of final goods.
- Recommended process improvements that reduced production time by 1.5 minutes.
- Collaborated with team members to evaluate and recommend an optimal automation system that could potentially increase production efficiency by 5%.
- Executed rigorous hardware debugging and testing, guaranteeing seamless operations at the manufacturing plant.

PROJECT EXPERIENCE

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- Devised and coded the control system logic for a ventilator manufacturing plant, resulting in a 15% increase in efficiency.
- Redesigned and programmed the code for kit building and assembly tasks, resulting in a 25% reduction in assembly time.
- Created algorithms for flipping parts, movement of the kitting and gantry robots, and detection and replacement of faulty parts, leading to a 40% reduction in part rejection rate.

Multi-model Vehicle

- Engineered an aircraft that could travel in 3 mediums- land, air, and water, resulting in a 15% increase in monitoring efficiency.
- Remodeled a tricopter drone configuration to seamlessly integrate with a hovercraft design, showcasing innovative problem-solving skills and increasing the payload capacity by 950g.
- Showcased proficiency in electronics and hardware by leading the development of the electro-mechanical structure of a vehicle.

Underwater Autonomous Vehicle

- Led and coordinated a cross-functional team to secure sponsorships, procure raw materials, and manage team finances, resulting in the successful raising of ₹1.5 lakhs in funding for building an autonomous underwater vehicle.
- Developed the AUV control system and optimized the circuit design by testing, increasing the efficiency by 5%.
- Finalized the design of the AUV and supervised the manufacturing process, ensuring the development of the vehicle in 5 months.

Water Monitoring System

- Revamped a water monitoring system by designing the PCBs, selecting components, and developing production-level firmware, resulting in an impressive 20% increase in efficiency.
- Implemented wireless calibration of sensors using MQTT protocol and software, reducing system downtime by 10%.
- Devised and crafted visually stunning and accurate 3D models using Fusion360, enhancing collaboration and streamlining the design process.