Mohammad Ibrahim memon

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Professional Experience

05/2024 – 08/2024
Stuttgart, Germany

Research Assistant Gmbh, *Kelo Robotics*

- Simulation setup.
- Researched different types of systems and simulations.

06/2022 – 07/2023
Pune, India

Robotics System Engineer - Integration and validation, *Unbox Robotics Pvt.Ltd*

- Build **test frameworks** to test developed features/fix bugs.
- Perform **root cause analysis** on the failure of development.
- Debugging & Resolving site issues and report generation.
- Executed **DFMEA** (Design Failure Mode and Effect Analysis) to enhance system reliability and reduce potential failure risks.
- Programmed and automated testing tools, improving feature validation
- Testing and Integration of control boards and mechanical setups.
- Collaborated with development teams to identify and resolve integration challenges.
- Led system runs, robot deployment, on-site support, and customer demos.

03/2021 – 02/2022
Ahmedabad, India

Embedded System Engineer, *DashDot Robotics Pvt.Ltd*

- Designed and prototyped hardware systems from scratch, ensuring optimal functionality and performance.
- Conducted circuit troubleshooting and root cause analysis (RCA) to resolve technical issues effectively.
- Developed firmware at the integration level, incorporating and calibrating various sensors for seamless operation.
- Mentored interns by guiding their project development, setting clear responsibilities, and fostering technical growth.

Skills

ROS/ROS2

Git

Test Framework Development

Circuit Troubleshooting

Micro-controllers/Microprocessors

ROS-based Development

Software-Hardware Integration

C++/Python

Hardware Prototyping

Robot Deployment

Sensor Integration

Microsoft office

Control Boards Integration

Matlab

Root Cause Analysis

System Integration

Performance Testing

Robotic Simulation (Gazebo, Issac Sim)

Prototyping Tools (EagleCAD, Canva)

Circuit Designing/ Eagle Cad

DFMEA

Error Debugging

Firmware Development

Simulation Setup

Electronic Control Systems

Projects

Multi-Robot Task Distribution

- Multi-robot task Distribution is a scalable and efficient system for distributing tasks among a fleet of autonomous robots in various environments and simulations.
- The robots aim to collaborate and fulfil the tasks of picking up parcels from multiple locations and collecting them into one place in the Gazebo environment.

Autonomous Mobile Robot Development, *AMR*

- Utilized ROS for software integration with hardware components, including Raspberry Pi, Arduino, 2D-LiDAR, 3D camera, IMU, and encoded motors.
- Led the project, developed the software stack for component integration, and designed the circuit, motherboard, and power supply.
- Tools & Technologies: ROS, Raspberry Pi, Arduino, LiDAR, 3D Camera (Kinect Xbox), Linux, EagleCAD, Canva, MS Office.

Underwater ROV

- **Awarded a Top 5 Innovative Proposal Award**, securing **government funding** for robotics research and development.
- **Designed and built** an **underwater robot**, leading **end-to-end in-house manufacturing** of the thruster and electronic control system (ECS).
- **Led a team of 5 engineers**, facilitating cross-functional communication with mentors, academic institutions, and project stakeholders.
- **Developed a custom Electronic Control System (ECS)** with **bi-directional functionality** using **DPDT relays**, improving system adaptability and response time.

Education

09/2023 – present
Sankt Augustin, Germany

Msc. Autonomous Systems, *University of Applied Sciences Bonn-Rhein-Sieg*
Master of Science

07/2018 – 06/2022
Mehsana, India

Mechatronics Engineering, *Ganpat University*
Bachelor of Technology

Certificates

ROS for Beginners: Basics, Motion, and OpenCV, *Udemy*

ROS for Beginners II: Localization, Navigation and SLAM, *Udemy*

Languages

English — C2

German — A1

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