SAMEER ARJUN SATHEESH

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EDUCATION

University of Maryland, College Park *Aug 2022 - May 2024*
Master of Engineering in Robotics | CGPA: 3.78/4.00

Visvesvaraya Technological University, India *Aug 2016 – Aug 2020*
Bachelor of Engineering in Mechanical Engineering | CGPA: 8/10

SKILLS

Programming Languages: Python, C++, MATLAB, SciLab, Ladder Logic, PLC & HMI Programming
Engineering Design & Analysis: Siemens NX, ANSYS, ABAQUS, SolidWorks, AutoCAD, CATIA, Revit
Libraries and Tools: ROS, SLAM, OpenCV, GD&T, SAP & Windchill PLM systems, AnyLogic, TCP/IP

WORK EXPERIENCE

Toyota Material Handling / The RAYMOND Corp. | *Applications Engineer II* *Jul 2024 – Present*

• Engineered and deployed autonomous RAYMOND/ Toyota forklift systems using Kollmorgen NDC Solutions, focusing on AGV path planning, mission logic, and overall system architecture.
• Designed and modeled site layouts to support high-precision localization, dynamic routing, and scalable AGV navigation strategies.
• Diagnosed and resolved system-level issues using Wireshark, CAN analyzers, and PLC diagnostics, contributing to iterative improvements in control logic and system reliability.
• Led integration of AGV platforms with WMS/ERP systems via APIs, enabling automated task execution and real-time tracking.
• Delivered technical training and authored documentation to support customer onboarding and internal teams.

Stanley Black and Decker Inc. | *Electro-Mechanical Engineering Intern* *Jun 2023 - Aug 2023*

- Design and analysis work using **CATIA** for Single Board Solution architecture trigger modules of power tools.
- Conducted testing & analysis for DeWalt power and impact drills module failure and proposed corrective solutions.
- Proposed new CraftsMan EV Charger product launch pipeline as part of the intern innovation challenge.

MOLEX India Business Services Pvt. Ltd. | *G E T* *Mar 2021 - Jul 2022*

- Design and analysis using **Siemens NX** for various types of Power and Signal connector and packaging systems.
- Worked on pilot project to utilize Finite Element Analysis to simulate mechanical drop tests for packaged electrical connectors to improve robustness of electrical connector design and reduce time to market, saving about 1 million USD annually
- Worked with R&D team to validate liquid cooling technologies for server and data center connector applications, resulting in increased current carrying capacity by 120%. Results were presented at Open Compute Project global conference, 2022.

PROJECTS

Autonomous Robot – Localization, sensor fusion, path planning, hardware implementation - *YouTube*

- Built autonomous 4 wheeled differential drive robot, with a parallel jaw gripper for pick and place operations.
- Control was achieved using onboard Raspberry Pi4, which included camera, ultrasonic sensor, motor encoders and 3 Axis Inertial Measurement Unit controlled by Arduino Nano.

Swarm robots for industrial applications - C++, ROS2, Python, Gazebo - *GitHub*

- Implemented swarm robot setup with 20 TurtleBots with simultaneous navigation (MAPP) on ROS 2 Humble and Python to aid in industrial emergencies. This development was implemented using an Agile Iterative software development process.

Path planning of TurtleBot using RRT*N algorithm – Python, Robot path planning - *GitHub*

- Implemented Rapidly exploring Random Trees* Normalized algorithm is an improvement on the RRT* algorithm and is aimed to reduce the path computational time and improve length of paths generated between the start and goal locations.
- The normalized function in this algorithm monitors the generation of new nodes to fall in a probability distribution function within a specific region towards the goal node, with the steering and backtracking function similar to RRT* algorithm.

Time varying ankle impedance – MatLab - *GitHub*

- Conducted analysis of the inversion-eversion of ankle joint for the estimation of ankle impedance control required for a human rehabilitation system using an Anklebot robot.

Ackermann steering controller - C++, API - *GitHub*

- Implemented Ackermann steering controller based on PID control logic, developed in Agile Iterative process and pair programming software development techniques.

ACHIEVEMENTS

Best Research Paper Award | Make in India, Research Paper Contest, Project Council, Government of India
Winner at Super Float Idea Challenge | MOLEX India Business Services Pvt. Ltd.
Certificate of Appreciation | Emergency Response Team at MOLEX-KOCH Industries for COVID-19 pandemic volunteer work