

# JAY MENON

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## EDUCATION

### M.S. Robotics and Autonomous Systems

Arizona State University, Tempe, AZ

May 2025

CGPA: 4.00/4.00

**Thesis:** Advanced controls of bio-inspired digital twins in complex environments

**Awards:** TSMC (Taiwan Semiconductor Manufacturing Company) Arizona Fellowship 2024 Recipient

### B.Tech. Major in Mechatronics Engineering, Minor in Robotics and Internet of Things

NMIMS University, Mumbai, India

September 2021

**Published Patent** for Protective Helmet Design (India) – [375891-001] in February 2023

## KEY QUALIFICATIONS

- C++
- Python
- MATLAB
- ROS (Robot Operating System)
- Linux development
- Robot dynamics and controls
- Sensor Fusion
- Critical Thinking
- Rapid Prototyping
- Object oriented programming
- Communication
- Embedded systems

## EXPERIENCE

### Research Fellow

TSMC (Taiwan Semiconductor Manufacturing Company)

August 2024 - Present

Tempe, AZ

- Researched a bio inspired inchworm robot using machine learning based controllers and implementing a digital twin using Nvidia Isaacsim.

### Robotics Intern

EntreVita Inc. (Remote)

August 2024 - Present

Grand Rapids, MI

- Led the robotics team to develop a food meal bowl preparation robot prototype in a cross functional team setup.
- Diagnosed using root cause analysis for the electromechanical failures.
- Integrated pre trained vision model, path planning and task decomposition to achieve cooking checkpoints.

### Hardware & Software Intern

99 Yards (Remote)

June 2024 - August 2024

New York, NY

- Collaborated with cross functional teams to develop a computer vision model for fabric material properties identification deployed on a mobile camera.
- Deployed the model on hardware components to operate the product in real time achieving 96.7 percent accuracy.

### ESG & Automation Analyst

Hindustan Unilever

November 2022 - July 2023

Mumbai, India

- Developed and tested a software system to automate the annual ESG data disclosure process.
- Collaborated with cross-functional teams to disclose the annual Business Responsibility & Sustainability Report.
- Increased the impact on global sustainability index of DJSI by 12 percent.

### Robotics Engineer

Mahindra Automotive Division

July 2021 - July 2022

Mumbai, India

- Diagnosed & resolved hardware and software failures using root cause analysis to reduce downtime in fast paced manufacturing lines.
- Optimized existing process lines by 47 percent using lean methodologies and technology integration.
- Documented system testing, troubleshooting and verification logs for plant audits.

### Robotics Intern

Automation & Control Systems

May 2019 – July 2019

Pune, India

- Developed PLC-based control systems for complex manufacturing scenarios using open source software packages.

## PROJECTS

### Balance Bracelet

Arizona State University

January 2024 – May 2024

Tempe, AZ

- Collaborated with neuropsychologists to develop wrist-worn biofeedback device using machine learning to monitor the phenomenon of low-stress situations such as coherence with a model accuracy of over 98 percent.

### LIOSAM (Lidar Inertial Odometry via Smoothing and Mapping)

Arizona State University

January 2024 – May 2024

Tempe, AZ

- Implemented autonomous navigation & point cloud processing on a differential drive robot using ROS, C++ & Gazebo.