Swapnil Meshram

+1(480) 919-5621 • sbmeshra@asu.edu • LinkedIn • Portfolio

EDUCATION

Master of Science, Robotics and Autonomous Systems (Electrical Engineering) **Expected December 2024**
Arizona State University Tempe, Arizona
GPA: 3.44/4

Bachelor of Engineering, Electronics Engineering **May 2020**
K. K. Wagh Institute of Engineering Education and Research (KKWIEER) Nashik, India
CGPA: 6.48/10

EXPERIENCE

Miniaturized and Advanced Power Electronics Laboratory: Research Aide **February 2023 – September 2023**
Arizona State University Tempe, Arizona

- Developed Printed Circuit Boards for planar transformers with medium-voltage isolation ratings of 26kV, 35kV, and 48kV.
- Engineered PCB Designs for various layer configurations, including 2, 4, 6, 10, 12, and 14 layers.
- Partnered with laboratory colleagues, including Ph.D. students, to evaluate and optimize PCB designs, ensuring alignment with project specifications.
- Diagnosed and resolved technical challenges encountered during PCB design, contributing to the effective completion of projects.

Aerospace Engineers Private Limited, Tamil Nadu, India: Electrical & Electronics Engineer **June 2021 – December 2022**

- Led marine robotic vehicle research and development in Autonomous & Undersea Systems Division, contributing to cost savings and strategic project management in the Electrical & Electronics department.
- Devised high-level electrical architecture for various unmanned marine robotic vehicles, including Autonomous Underwater Vehicles rated for 500 meters depth, Remotely Operated Vehicle, and Autonomous Surface Vessel.
- Designed embedded electronics from concept to functional prototype, including hardware selection, schematic and PCB design, board bring-up, and system-level integration.
- Created system interconnect diagrams and defined wire harnesses to connect electronic subsystems within the vehicle.
- Collaborated with cross-functional teams to integrate robotics hardware – custom-designed hardware, acoustic sensors, underwater sensors and payloads, and communication systems to build marine robotic vehicles from the ground up.
- Facilitated collaboration throughout the product development lifecycle, including design, review, testing, debugging, and documentation.

ACTIVITIES/ AFFILIATIONS

Team Vector, KKWIEER, Nashik, India: Technical Team Member **September 2017 – August 2019**

- As a core team member, managed and cooperated with a 40-member robotics team for ABU Robocon India, a pan-Asia robotics competition.
- Conducted the design, manufacturing, testing, and integration of power and logic interfaces for both manual and autonomous robots.

Team Nikola Racing, KKWIEER, Nashik, India: Technical Team Member **March 2019 – June 2019**

- Led analysis, creation, and development of a 100-kilometer range electric motorcycle from scratch, collaborating with a 20-member interdisciplinary team.
- Initialized and implemented battery pack design consisting of Lithium-titanate cells, enabling the electric motorcycle to charge within 20 minutes and providing a battery life of more than 8 years.

TECHNICAL SKILLS

Engineering Tools: Altium Designer, Autodesk Eagle, KiCAD, MATLAB, Simulink, LTspice, Ansys, GitHub
Programming Languages: Python, C, MATLAB, HTML, CSS
Proficient: Printed Circuit Board Design, Circuit Simulation, Schematics, Research and Development (R&D), Sensors, Robotics, Embedded Systems