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, AZ *GPA: 3.64/4.00*
Relevant Coursework: Deep Neural Networks, Embedded Machine Learning, Power Electronics & Power Management, Connected and Automated Vehicles, Realtime DSP

Bachelor of Engineering, Electronics Engineering **May 2020**
K. K. Wagh Institute of Engineering Education and Research, Nashik, India *CGPA: 6.48/10*
Relevant Coursework: Electronic Devices & Circuits, Advanced Power Electronics, Automotive Electronics, Embedded Processors, Electromagnetics & Wave Propagation

TECHNICAL SKILLS

Hardware Tools & Development Environments: Altium Designer, Autodesk Eagle, KiCAD, LTspice, Simulink, Ansys Maxwell, Google Colab, Anaconda, Jupyter Notebook, Visual Studio Code, Git
Programming Languages: Python, C, MATLAB
Libraries & Frameworks: NumPy, Pandas, Matplotlib, Seaborn, PyTorch, TensorFlow

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 multi-layer PCB designs (2, 4, 6, 10, 12, 14 layers), optimizing for project specifications.
- Collaborated with Ph.D. students to evaluate and optimize designs, ensuring alignment with project goals.
- Diagnosed and resolved technical challenges in PCB design, contributing to successful project completions.

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

- Led R&D for marine robotic vehicles in the Autonomous & Undersea Systems Division, achieving significant cost savings and project management improvements.
- Devised high-level electrical architecture for unmanned marine vehicles, including AUVs (rated for 300 meters depth), ROVs, and ASVs.
- Designed embedded electronics from concept to prototype, including hardware selection, schematic and PCB design, board bring-up, and system integration.
- Created system interconnect diagrams and defined wire harnesses, ensuring seamless subsystem connectivity.
- Collaborated with cross-functional teams to integrate custom-designed hardware, sensors and communication systems, successfully building marine robotic vehicles from scratch.
- Facilitated cross-team collaboration throughout the product development lifecycle, including design reviews, testing, debugging, and documentation.

ACTIVITIES/ AFFILIATIONS

Team Vector: Electrical Subsystem Lead **September 2017 – August 2019**
K. K. Wagh Institute of Engineering Education and Research *Nashik, India*

- Managed and collaborated with a 40-member robotics team for ABU Robocon India, a pan-Asian robotics competition.
- Conducted design, manufacturing, testing, and integration of power and logic interfaces for manual and autonomous robots.
- Secured All India Rank 9 in the virtual round of ABU Robocon 2019, showcasing exceptional teamwork and technical proficiency.

Team Nikola Racing: Technical Team Member **March 2019 – June 2019**
K. K. Wagh Institute of Engineering Education and Research *Nashik, India*

- Led the development of a 100-kilometer range electric motorcycle, collaborating with a 20-member interdisciplinary team.
- Designed and implemented a battery pack with Lithium-titanate cells, enabling 20-minute charging and 8+ years battery life.