

Swapnil Meshram

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EDUCATION

Master of Science, Robotics and Autonomous Systems (Electrical Engineering) <i>Arizona State University, Tempe, AZ</i> Relevant Coursework: Introduction to Deep Neural Networks, Embedded Machine Learning, Power Electronics & Power Management, Connected and Automated Vehicles, Realtime DSP	Expected December 2024 <i>GPA: 3.64/4.00</i>
Bachelor of Engineering, Electronics Engineering <i>K. K. Wagh Institute of Engineering Education and Research, Nashik, India</i> Relevant Coursework: Electronic Devices & Circuits, Advanced Power Electronics, Automotive Electronics, Embedded Processors, Electromagnetics & Wave Propagation	May 2020 <i>CGPA: 6.48/10</i>

TECHNICAL SKILLS

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

EXPERIENCE

Miniaturized and Advanced Power Electronics Laboratory: Research Aide <i>Arizona State University</i> <ul style="list-style-type: none">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.	February 2023 – September 2023 <i>Tempe, Arizona</i>
Aerospace Engineers Private Limited: Electrical & Electronics Engineer <i>Autonomous & Undersea Systems Division</i> <ul style="list-style-type: none">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.	June 2021 – December 2022 <i>Tamil Nadu, India</i>

ACTIVITIES/ AFFILIATIONS

Team Vector: Electrical Subsystem Lead <i>K. K. Wagh Institute of Engineering Education and Research</i> <ul style="list-style-type: none">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.	September 2017 – August 2019 <i>Nashik, India</i>
Team Nikola Racing: Technical Team Member <i>K. K. Wagh Institute of Engineering Education and Research</i> <ul style="list-style-type: none">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.	March 2019 – June 2019 <i>Nashik, India</i>