Joseph Lombardi, PE

Education

Worcester Polytechnic Institute (WPI) Worcester, MA
Master of Science (MS), Robotics Engineering, GPA 4.0/4.0 December 2023

- Capstone: Urban Fire Search and Rescue Drone
  - Developed simulation suite for sensor-fusion of LiDAR, visual, thermal, and ultrasonic data.
- Selected courses:
  - RBE 549 Computer Vision: Wrote elementary feature detectors up through CNNs, GANs, and NERFs using TensorFlow and other modern toolchains in Python.
  - RBE 502 Robot Control: Wrote URDF descriptor for robotic arm, simulated velocity-control in ROS and Gazebo, and implemented state-space control of simulated underwater drone.

Worcester Polytechnic Institute (WPI) Worcester, MA
Bachelor of Science (BS), Robotics Engineering, with Distinction May 2018

Skills & Licenses

Professional Engineer (PE) - State of Maine
Programming: Matlab, Git, C++, C#, Java, Python, LaTeX, Google Colab, ROS, TensorFlow
Simulation: Simulink, Unity Engine, Unreal Engine, Gazebo, RViz
Drafting: SolidEdge (Professional Certification - 2024), OnShape, SolidWorks, Fusion 360, Esprit CAM
Prototyping: Soldering PCBs, operating milling machines/lathes, wiring/pinning cables, 3d printing
People: Communication and coordination, technical presentations, teamwork and mentorship
Private Pilot (PPL) - Federal Aviation Administration

Work Experience

Portsmouth Naval Shipyard
Senior Electrical Engineer August 2022 – Present

- Authored subject matter expert presentation on 3-phase stator rewinds for senior promotion.
- Mentor to 3 engineers, responsible for delegating work to and training mentees.
- Advisor on multi-million dollar robotic system development and purchase contracts.
- Invented novel semi-autonomous tooling for motor-generator rewind and refurbishment.
- Awards: 2023 Volunteer Award for 150+ hours in STEM outreach, 19 ‘On the Spot’ awards.

Electrical Engineer May 2018 – August 2022

- Tested and repaired electrical equipment: motors, generators, windings, controllers, amplifiers, circuits.
- Traveled to support robotic hull-crawler research and development in Puget Sound, WA.

Intern Electrical Engineer August 2016 – May 2018

- Studied under engineers, technicians, and licensed Professional Engineers about power equipment.

Selected Activities

FIRST Robotics Competition (FRC)
Coach (lead coach from 2022 - present) 2019 – Present

- Coordinated with the school department for budgetary and legal needs of running the team.
- Led a group of 6-15 high school students and 2 co-coaches during intense build seasons.
- Made and taught introductory robotics curriculum utilizing Arduino to high school students.

Electric Vehicle Conversion Project
Principal designer 2019 – 2024

- Designed, sourced, wired, troubleshot, fabricated, and welded parts, pieces, circuits, etc. to create an EV.