# Michael J. Beskid

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## Education

**Worcester Polytechnic Institute** **August 2019 – May 2023**
*B.S. Aerospace Engineering, B.S. Robotics Engineering* *Worcester, MA*

- 4.00/4.00 GPA, 8x Dean's List, Provost's MQP Award Winner, Salisbury Prize Recipient
- Honor societies: Sigma Gamma Tau, Rho Beta Epsilon, Tau Beta Pi

**Worcester Polytechnic Institute** **August 2022 – May 2024**
*M.S. Robotics Engineering* *Worcester, MA*

- 4.00/4.00 GPA

## Experience

**Tesla** **May 2023 – August 2023**
*Manufacturing Engineering Intern* *Sparks, NV*

- Provided manufacturing equipment engineering support for Tesla Energy products lineside at Gigafactory Nevada.
- Analyzed manufacturing KPIs to identify and solve problems in a fast-paced high volume manufacturing environment.
- Performed mechanical design tasks and prepared engineering drawings using Solidworks to make parts for fixture improvements and line upgrades, increasing manufacturing efficiency while reducing downtime and scrap costs.

**SpaceX** **May 2022 – August 2022**
*Launch Engineering Intern* *Cape Canaveral, FL*

- Provided engineering support for SpaceX's fleet of recovery vessels onsite at CCSFS for Falcon 9 recovery operations.
- Designed fluid power and electrical systems to increase efficiency and reliability of off-shore Falcon 9 recovery missions.
- Maintained extreme ownership over three projects, performed thorough analysis and verification of designs, and regularly presented updates to senior engineers through iterative design reviews.

**Next Advance** **May 2021 – August 2021**
*Product Development Engineering Intern* *Troy, NY*

- Supported product development and manufacturing operations for molecular biology laboratory instruments.
- Led the development of a new product from initial design concept through prototyping and scaling to production.
- Implemented innovative solutions to solve engineering problems and to improve performance of mechanical and electrical systems; modified and updated device firmware in parallel with hardware development.

## Projects

**High Power Rocketry Club (HPRC)** | *PCB Design, C/C++, State Estimation, Simulation* **Aug. 2019 - Present**

- Led and collaborated with an interdisciplinary team of 100+ students to design, simulate, build, test, and launch a class 2 high-power rocket for the Intercollegiate Rocket Engineering Competition (IREC) at Spaceport America.
- Managed 30+ team members directly as Division Lead for HPRC's Electronics and Programming Division, responsible for electronics design and fabrication, flight software, antenna design, radio comms, and ground station application.
- Developed a modular rocket avionics stack, consisting of several custom PCBs with CAN bus and embedded sensors, to perform tasks including power distribution, data acquisition, processing, data storage, and live radio telemetry.
- Oversaw software development for a custom flight computer deployed to control the rocket through high altitude flight, including event detection, state estimation, data transmission, and control of a novel air braking system.

**Design and Testing of an Amphibious AUV** | *C/C++, Dynamics, Control Architecture* **Aug. 2022 - May 2023**

- Developed a quadrotor vehicle capable of combined aerial flight and underwater locomotion with a small team.
- Designed and fabricated the electronics and sensing systems for GPS-denied localization. Derived the aerial and underwater dynamics of the vehicle and implemented a custom control architecture and flight computer in C++.
- Winners of WPI's Provost MQP Award and the 2023 AIAA Region 1 Student Conference in the Team category.

**LiDAR Mapping + Path Planning Robot** | *Algorithms, Python, ROS, Linux* **Oct. 2021 – Dec. 2021**

- Utilized the LiDAR-equipped TurtleBot3 platform to implement simultaneous localization and mapping (SLAM).
- Developed sophisticated occupancy grid, padding, mapping, frontier finding, and path planning algorithms in Python.
- Created system architecture through the use of several ROS nodes and services within a Linux-based environment.

## Technical Skills

**Software**: Microsoft Office, AutoCad, Inventor, Solidworks, Siemens NX, Mathcad, Altium Designer, Linux, ROS
**Programming Languages**: C/C++, Arduino C, Java, Python, MATLAB, AWS, SQL
**Prototyping**: 3D Printing, Laser Cutting, Soldering & Electronics Fabrication