

Michael J Monda

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Materials scientist and roboticist with graduate-level training in advanced characterization techniques (XRD, SEM, TEM, TGA), metallurgy, surface engineering and systems engineering. Experienced in laboratory leadership, project management, product development, and interdisciplinary problem solving. Recognized by the National Academy of Inventors for contributions to the field of hydrogen storage and energy systems technology. Brings literacy in materials behavior and interaction, robotics and embedded systems technology, metallurgical sciences, and environmental management to engagements which require scientific depth and clear communication with non-technical personnel.

EDUCATION

Worcester Polytechnic Institute

Worcester MA January 2025 – May 2026

M.S. in Materials Science and Engineering, GPA: 3.61.

Societies: WPI Collegiate Entrepreneurs' Organization (President), WPI Philharmonic Orchestra, National Academy of Inventors.

Worcester Polytechnic Institute

Worcester MA August 2022 – May 2026

B.S. in Robotics Engineering, GPA: 3.58.

Dean's List: Fall 2022, Fall 2024.

Societies: Alpha Chi Rho Fraternity (Treasurer), WPI Philharmonic Orchestra, WPI Jazz Band.

RESEARCH & WORK EXPERIENCE

Magnesium Alloy Ingot-Sponge

July 2025 – Present

Developing new methods of storing and releasing hydrogen using advanced metallurgical science and microstructure engineering. Used SEM and XRD to characterize sample microstructure and phase distribution. Five prototypes developed to-date. Theoretical performance significantly exceeds industry standard.

Student Researcher, The Charles Stark DRAPER Laboratory

October 2024 – May 2025

Designer, electrification and composites specialist for a full-autonomous dual drone docking and charging collaboration system. Integrated a custom computer vision setup and autonomous governance and communication subsystem into drone firmware. Managed product development process from the early concept phase through prototyping phase. 1st place prize awarded by DRAPER at research showcase for outstanding achievement.

Closed-Loop Hydrolysis Power Source

May 2023 – July 2025

Designed a semi-intelligent, water-fueled standby energy system capable of powering up to 200 homes. Features include OBD-II-derived self-diagnostics and novel combined-cycle gas-turbine powerplant for exceptional performance. Developed custom software solution to generate design requirements and evaluate metrics. US application #63/863,916. Work recognized by the National Academy of Inventors.

The Eagle Scout Project

December 2020 – May 2021

Facilitated the design and installation of four little libraries to improve youth literacy in Northport NY.