Gabriella Giachini

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EDUCATION

Purdue University, West Lafayette, IN *Aug. 2019 - May 2024*
Master of Science in Mechanical Engineering in Robotics and Controls *GPA 4.00/4.00*
Bachelor of Science in Mechanical Engineering, Minor in Computer Science *GPA 3.87/4.00*

SKILLS

Technical skills: CAD, C, MATLAB, LabVIEW, SQL, ROS2, Arduino, Python, Assembly, PyTorch, Jax
Machining instruments: Lathe, CNC Mill, Universal Testing Machine, 3D printers
Languages: English (fluent), Spanish (native), Italian (native)

PROFESSIONAL EXPERIENCE

Ethium Manufacturing Engineering Intern, EControls, San Antonio TX *May – Aug. 2021, 2022*

- Designed and tested fixture to fully automate the un-wrapping of battery cells, presented to CEO.
- Developed a LabVIEW program that tracks production status of battery modules by drawing and displaying real-time data from EControls' Manufacturing SQL database.
- Optimized Ethium's manufacturing line and set production goals by redistributing tasks to operators.

Teaching Assistant, Purdue University *Aug. 2020 – May 2021, Aug.2022 – May 2024*

- Guide 40 students in Measurement and Control Systems I/II (ME 365/375) and First-Year Engineering (ENGR 131/2) courses with assignments during lectures and laboratories, helping them understand class concepts and teaching teamwork, communication, and analytical skills.

RESEARCH

Multi-Agent Robotic Project, Corallab Lab at Purdue University *Aug. 2023 – May 2024*

- Implement an HSV-based image processing localization model and robust state-estimation controller to navigate multiple robots in performing neural rearrangement of objects in cluttered environments.

Radiative Cooling Nanocomposites Research, Flex Lab at Purdue University *Aug. 2021– May 2022*

- Designed, fabricated, and tested nanoparticle-polymer composites to adapt Dr. Xiulin Ruan's successful high-performance radiative cooling paint to be used for water harvesting and collection.

Additive Manufacturing Research, Potter Engineering Center at Purdue University *Aug. – Dec. 2020*

- Analyzed process parameters of plastic additive manufacturing and tested the material's mechanical properties in Dr. Yung Shin's lab to quantify the effects of print orientation, infill, and technique used.

LEADERSHIP & INVOLVEMENT

Semiconductor Hotspot Detector, Mechanical Engineering at Purdue University *Jan. – May. 2023*

- Managed controls and electrical team in the development and testing of the precise 2-axis motor movement operation and assembly of a semiconductor hotspot imitation system.

Mechatronics World Cup Competition, Mechanical Engineering at Purdue University *Aug. – Dec. 2022*

- Led electrical and software team in the design, manufacturing and debugging of a fully automated soccer-playing robot that seeks, acquires, aims and scores a ball accurately 4/5 times, under a minute.

Formula Society of Automotive Engineers (SAE), Purdue University *Sept. 2019 – Dec. 2022*
Education Team Leader & Chassis Team Member

- Created onboarding project to train new members on tools the team uses.
- Produced jigs to assemble chassis by employing CAD, manual, and CNC mills.
- Analyzed, manufactured, and tested firewall, floor pan carbon fiber panels, and impact attenuator.
- Conducted safety analysis on car parts by executing simulations with FEA.

Time Attack Competition, Mechanical Engineering at Purdue University *April – May 2022*

- Headed team of three engineers to code a fast and precise line-follower robot for the Mechanical Engineering System Modeling and Analysis course competition and received third place award.

HONORS, AWARDS

- 2023-24 Mechanical Engineering Department Scholarship
- 2022-23 General Mechanical Engineering Undergraduate Campaigns
- 2020-21 & 2021-22 McDonnell Douglas Diversity Scholarship
- 2021-22 Kaiser Aluminum Mechanical Engineering Scholarship