Gabriella Giachini

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EDUCATION

Purdue University, West Lafayette, IN *GPA 3.86/4.00*
Master of Science in Mechanical Engineering in Robotics and Controls *May 2024*
Bachelor of Science in Mechanical Engineering, Minor in Computer Science *May 2023*

SKILLS

Technical skills: CAD, FEA, C, Java, MATLAB, LabVIEW, SQL, ROS2, Arduino, Python
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

Undergraduate Teaching Assistant, Purdue University *Aug. 2020 – May 2021, Aug. – Present*

- Guide 30 students in System Modelling and Analysis (ME 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

UNDERGRADUATE RESEARCH

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

Rotating Detonation Engines Research, Zucrow Labs at Purdue University *June – Aug. 2020*

- Developed Python code that examines the performance of rotating detonation engines, under Prof. Terrance Meyer, by analyzing supersonic wave speed and frequency data using image processing techniques and Fast-Fourier transforms.

LEADERSHIP & INVOLVEMENT

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.

2022 IEEE UAV Competition, Purdue UAS Research and Test Facility *Aug. – Dec 2022*

- Coded and implemented rover tracking capabilities on PX4 Vision Drone using depth camara data as input. 3D positioning of drone will be provided to path planning algorithm to aid in quickly tailing rover.

Formula Society of Automotive Engineers (SAE), Purdue University *Sept. 2019 – Present*
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

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