

Elise Vergos

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Education

Master of Engineering in Mechanical Engineering

Aug 2024-May 2025

Cornell University, Ithaca, NY

GPA: 3.94/4.00

Coursework: Digital System Design of Microcontrollers, Human Robot Interaction, Multidisciplinary Design Optimization, Technology in Music Performance, Robot Perception, Engineered Living Materials, Adv. Topics in Additive Metal Manufacturing, Design and Control of Haptic Systems

Bachelor of Science in Mechanical Engineering

Aug 2020-May 2024

Cornell University, Ithaca, NY

Coursework: Adv. Product Design, Polymer Mechanics, Mechatronics, (Human) Interaction Design Studio, IoT, System Dynamics, Fluid Mechanics, Thermodynamics, Environmental History

Professional Experience

Hardware Engineer

May 2023 - May 2025

Rev: Ithaca Startup Works, Ithaca, NY

↔ Manufacturing Hardware Engineer

Aug 2024 – May 2025

- Directed prototyping workflow for hardware projects across 13 startups, delivering three prototypes monthly, and enabling founders to secure seed funding based on successful prototype demonstrations.
- Fabricated high-quality prototypes using hand tools, CNCs, PCBs, laser cutters, and 3D printers.
- Engineered robust MATLAB-based simulations for validating hardware prototypes against physical systems, leading to three designs that exceeded efficiency targets by at least 30%.
- Collaborated with five startup founders to establish comprehensive testing protocols, covering aspects from basic hardware functionality, improving efficiency, and advanced waterproofing, influencing critical design choices and enhancing customer satisfaction metrics.
- Recommended optimal design strategies encompassing tolerancing, manufacturability, material specifications, and component selection to startup founders, leading to a reduction in prototyping costs and accelerated product development cycles.

↔ Prototyping Hardware Engineer

May 2023 – May 2024

- Guided 15+ startup founders through intensive hands-on workshops covering shop prototyping techniques and Fusion 360 CAD software, facilitating independent concept development and tangible prototype creation from initial sketches.

Product Development Engineering Intern

May 2024 - Aug 2024

WAZER Waterjet, Yonkers, NY

- Engineered and implemented long-term mechanical testing fixtures and automated data collection/processing scripts, complete with daily overview dashboards for comprehensive monitoring.
- Executed rigorous material classification experiments over broad ranges of 25 increments in variables to validate proposed component changes, pinpointing a critical flaw in the initial design that led to a reduction in cutting time.
- Led the testing and design phases for a new product, culminating in a production-ready design that decreases debris in water outflow by at least 200%.
- Conceptualized and implemented design solutions that significantly improved user interface, streamlined workflows, and enhanced machine performance within the WAZER CAM software environment.

Teaching Assistant of Fluid Mechanics, Mechanical Synthesis

Aug 2023 - Dec 2024

Sibley School of Mechanical and Aerospace Engineering at Cornell, Ithaca, NY

- Facilitated 5 weekly laboratory sessions, guiding 100+ students to successful completion of "guided discovery" activities; fostered deeper comprehension of fluid mechanic principles and practical engineering applications each semester.
- Guided 25 student teams through fluid mechanics dissection projects, facilitating the successful analysis of complex systems and creation of video presentations, improving understanding and project quality.