Felix Hering

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Education

Georgia Institute of Technology, Atlanta, GA *Fall 2022 - Spring 2026*

- B.S. in Mechanical Engineering, Minor in Robotics GPA: 3.90/4.00

Work Experience

Emory Healthcare

Research Assistant, Atlanta, GA May 2025 - Present

- Developing a $1k 3D imaging prototype for radiation therapy guidance, providing an accessible alternative to multi-million-dollar MR-guided systems.
- Implementing custom Python algorithms for stereo calibration, depth fusion, and real-time point cloud generation.
- Designed and fabricated a precision camera mount ensuring sub-millimeter alignment and consistent depth accuracy.

W.L. Gore & Associates Microwave Cable & Capacitors

Mechanical Engineering Co-op, Newark, DE January 2024 - May 2024

- Led research experiments to evaluate electrical conductivity and solderability of tarnished cables resulting in the usage of air-tight storage to mitigate further degradation
    - Designed and directed accelerated mixed-flow-gas testing to emulate corrosion conditions and led XPS analysis to quantify surface oxidation levels, guiding long-term storage protocols.
    - Developed and deployed a Python script for visual tarnish measurement.
- Created custom tool in Python that generates Radio Frequency plots from Vector Network Analyzer data, adopted by all cable validation personnel on the floor, improving data analysis efficiency

Research and Projects

Smart Vein Finder Imaging System Fall 2025 - Present

- Building a low-cost NIR imaging device that identifies optimal veins via alternating wavelengths to estimate depth and enhance visibility across skin tones.
- Designed and fabricated a custom PCB to toggle multi-wavelength LED arrays, integrating driver circuits and power management for precise illumination control.
- Using NVIDIA Jetson Nano to process synchronized video streams and depth inference on Linux, with CAD design underway for compact camera-LED housing.

Vision-Controlled Stepper Synthesizer Spring 2025

- Engineered a complete mechatronic instrument using an STM32 microcontroller, stepper drivers, and vision-based input control on a custom PCB.
- Developed an OpenCV-based interface that dynamically detects finger position and segments note zones using contour detection, triggering stepper motors for sound playback.
- Implemented real-time motor control in C using an interrupt-driven architecture and UART communication.

Simulations Lead at GT Supersonics Club Fall 2024

- Spearheaded NPSS simulations and Python-based modeling to optimize supersonic propulsion systems, defining design parameters for next-gen engine prototypes.
- Implemented LabView programs to automate data collection and validation from an engine testing stand, ensuring accurate performance metrics

Research Assistant at Water-Energy Research Lab Summer 2024

- Assisted in the research of air gap membrane desalination.
- Designed and 3D printed a prototype desalinator, utilizing heat transfer and fluid mechanics knowledge.
- Developed a LabVIEW program for real-time thermal analysis of saltwater flow, enabling precise control of evaporator conditions during experiments.

Technical Skills

Software & Programming: Python, C, MATLAB, Simulink, LabVIEW, ROS2, STM32, OpenCV, Java, Linux, DepthAI
Hardware & Analysis: PCB Design (KiCad), CAD (SolidWorks, Fusion 360, NX), NPSS, ANSYS, Signal Processing