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.

Research Assistant at Water-Energy Research Lab Summer 2024

- Modeled coupled heat/mass transfer in air-gap membrane desalination system; optimized gap spacing and thermal gradients for efficient vapor transport
- Validated models experimentally via LabVIEW DAQ with temperature probes, flow sensors, and pressure monitoring
- Designed 3D-printed membrane test fixtures; evaluated polymer candidates through surface characterization (AFM roughness, contact angle, fouling resistance)

W.L. Gore & Associates Microwave Cable & Capacitors

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

- Designed test fixtures and environmental chambers for accelerated sulfur/humidity degradation of microwave cables; managed multi-factor test matrices and executed long-duration reliability studies.
- Performed mechanical and materials-level testing (pull tests, solderability assessment, surface chemistry analysis via XPS) and interpreted failure modes to inform new handling/storage protocols.
- Developed a Python data-analysis suite for RF/VSWR measurements from VNAs, improving test throughput and enabling standardized reporting across the floor.

Projects

Smart Vein Finder Imaging System Fall 2025

- Designed multi-wavelength NIR imaging device housing with tight tolerances for aligned illumination and camera placement; fabricated using laser cutting and 3D printing
- Developed custom PCB for LED array driver circuits and synchronized camera control; implemented depth estimation algorithms on NVIDIA Jetson Nano
- Conducted optical and mechanical validation testing across varying skin tones and distances; iterated design based on alignment stability and assembly constraints

Gesture-Mimicking Robotic Arm Fall 2025

- Built a 6-DOF serial robotic arm that replicates human arm motion in real time using OpenPose and OpenCV for vision-based joint tracking.
- Developed kinematic mapping and servo interpolation algorithms to convert 2D keypoints into 3D joint angles for smooth, low-latency control.
- Implemented embedded motor control in C on an STM32 microcontroller with a custom PCB

Simulations Lead at GT Supersonics Club Fall 2024

- Designed SolidWorks mechanical mounts for high-pressure/temperature instrumentation on propulsion test stand; performed shear and deflection hand calculations to prevent structural failure during dynamic tests
- Supported test stand development, sensor integration, and instrumentation calibration for nozzle exit flow characterization
- Contributed to NPSS simulations and Python-based modeling to validate experimental thrust and flow data

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