Ludvig Fellstrom

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected Dec 2027**
Bachelor of Science, Electrical and Computer Engineering
GPA: 3.57

Relevant Courses: Computer Systems Programming, Digital Logic and Computer Organization, Introduction to Circuits, Introduction to Operations Research, Microelectronics, Embedded Systems

PROFESSIONAL EXPERIENCE

Ghost Social, San Francisco, CA, *AI Engineering Intern* **Jun 2025-Present**

- Designed and deployed an automated match-delivery WhatsApp AI agent using AWS Bedrock + Twilio, increasing delivery reliability and engagement
- Implemented GraphRAG backend architecture integrating Pinecone + Neo4j to improve match accuracy and relationship reasoning across profiles

LEADERSHIP EXPERIENCE

CUSail, Cornell University, *Electrical Systems Lead* **Sep 2024-Present**

- Designed and programmed a custom PCB in KiCAD consolidating buck converters, Teensy microcontroller, and servo routing, significantly improving reliability and simplifying debugging
- Led embedded system development for autonomous sailboat navigation, integrating GPS, IMU, anemometer, and sail/rudder servos into the compute stack

Institute of Electrical and Electronics Engineers, Cornell University, *Social Chair* **Aug 2024-Present**

- Coordinated and ran biweekly executive meetings, oversaw standing committee activities, and implemented technical outreach and community support initiatives

RESEARCH EXPERIENCE AND PROJECTS

Body Heat Harvesting to Power Medical Wearables, ZT Group, *Undergraduate Researcher* **Jul 2025-Present**

- Created PCB layouts in Altium for TEG measurement and data logging, enabling validation of efficiency and stability under load
- Characterized organic thermoelectric device prototypes, measuring power output across variable thermal gradients
- Developed thermoelectric generator (TEG) circuits harvesting body heat to power wearable medical devices

Fungal Microclimate Regulator, *Independent Project* **May-Aug 2025**

- Built ESP32-based control system integrating sensors with MOSFET drivers for real-time temperature, humidity, and CO_2 regulation.
- Programmed C/C++ firmware for real-time sensor polling, PID humidity loops, and OLED status display
- Implemented ThingSpeak telemetry and GitHub Pages dashboard for remote sensor monitoring and visualization

ADDITIONAL EXPERIENCE

Merrill Family Sailing Center, Ithaca, NY, *Sailing Instructor* **Sep 2024- Present**
Finger Lakes Reuse, Ithaca, NY, *Retail Assistant* **Aug-Dec 2024**
ESS Group, Ystad, Sweden, *Restaurant Server* **June-Aug 2024**

SPECIALIZED SKILLS

Programs: Python, C/C++, Git, SQL, Verilog, Adobe Illustrator, Microsoft Office, LTSpice, Solidworks, ArcGIS, Altium KiCAD, Neo4j and Machining
Languages: Swedish (fluent); Spanish (intermediate)