

Micah Lai

📍 Ithaca, NY ✉ mjl423@cornell.edu ☎ +1-949-697-0377 🌐 micahlai.com in micahlai 📷 micahlai

Education

Cornell University

Electrical and Computer Engineering

Class of 2029

- **GPA:** 3.99, **Coursework:** Signals & Systems, EM Waves, Electric Circuits, Digital Logic

Experience

Cornell Electric Vehicles

Electrical Subteam Member

November 2025 - Current

- Currently working on a stereo camera system leveraging FPGA-based processing to generate real-time depth maps for downstream autonomous perception and navigation.
- Designed PCB to integrate regenerative braking into the BLDC motor controller with field-oriented control.

ECE 2100 - Electric Circuits

Undergraduate Course Assistant

August 2026 - December 2026

- Lead & facilitate lab sections and grade student midterms and labs.

PIH Health Whitter Supply Chain

Forward Deployed Engineer

July 2026 - August 2026

- Built a hospital OR schedule management system replacing charge nurses' paper clipboard workflow and integrate with hospital database.
- Designed for an air-gapped clinical environment with strict PHI-safety guarantees.

Computer Vision Principal Researcher

University of Southern California, Viterbi School of Engineering

June 2024 - Sep 2024

github.com/micahlai/yolov10-freezing 

- Trained computer learning object detection models to understand the architecture of YOLOv10 for optimized transfer learning using PyTorch.

Projects

Home Lab for Remote File Management and Video Rendering

- Built a wake-on-demand home server: Windows PC (storage, Immich photo hosting) that hibernates when idle, woken remotely via an always-on Raspberry Pi running a Flask control dashboard.
- Secured remote access with a Tailscale mesh VPN, strict secrets isolation, and automated deploy/verify tooling over SSH (Linux + Windows PowerShell).

Custom Guitar Pedalboard

- Built a custom MIDI foot controller on a RPI Zero 2W with footswitches, an SPI ADC expression pedal input, and USB/BLE MIDI output, controlled via a Python app with a browser-based configuration UI.

Interactive Screen Art Mosaic

devpost.com/software/screen-mosaic 

- Built a computer-vision system (Python, OpenCV, ArUco) that calibrates and stitches multiple physical displays into one seamless interactive canvas from a single phone photo.

Musical Glove Synthesizer and Modulator

[github/JaidenAGrimminck/makeathon](https://github.com/JaidenAGrimminck/makeathon) 

- Created a glove as an instrument; Worked on amplifier circuits and embedded hardware for the glove.

Skills & Intrests

Skills: C++, C#, Python, JavaScript, ASP.NET, HTML, LaTeX, Altium, Autodesk, Adobe Suite

Intrests: Computational Imaging, Digital Cameras, Film & Television Production, Cinematography, Audio DSP