

# Matthew Wei

Aspiring sophomore in Electrical Engineering with strong interest in microelectronics and semiconductors. Looking to build on-job experience with goal-driven companies and expand my professional network.

## Contact Info



Overland Park, KS



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## Skills

Java

C

Assembly

HTML/CSS

Linux

Python

JavaScript

## Courses

Analog Signal Processing

Applied Linear Algebra

Computer Systems

Differential Equations

Fields and Waves

## Hobbies & Interests

- ❖ Coding
- ❖ Weightlifting
- ❖ Video Games
- ❖ Music
- ❖ Languages

## Involvement

- ❖ Triangle Fraternity
- ❖ IEEE
- ❖ Asian American Association

## Education

**University of Illinois at Urbana-Champaign** August 2020 – May 2024

Pursuing Bachelor of Science in Electrical Engineering

Minor in Computer Science

GPA: 3.78/4.00

## Work Experience

### Research Intern

U.S. Army Construction Engineering Research Laboratory

Champaign, IL

June 2021 - August 2021

- Worked on **energy-waste renewal** project designed to treat and clean wastewater using electrical devices such as **methane sensors, solenoids, and pH detectors**
- Designed plumbing routes and implemented system to work with a **PLC controls unit**, increasing runtime efficiency **up to 12%**
- **Team player** and worked with 12-member team on **lab** demonstration, **leading** subsections tasks, and reporting project progress weekly

## Projects

### AM Radio Receiver

- Constructed audio demodulator using components including **op-amps, envelope detectors, and frequency filters**
- Applied **frequency domain** transformations to detect **envelope** of signal and then demodulate using **bandpass filters**

### Vending Machine Coin Sensor

- Assembled and developed circuit using **binary logic** and **flip-flops** that distinguishes type of coin inserted and responds with appropriate output

### Light-Seeking Car

- Built and integrated using **photodetectors, potentiometers, and transistors** a mini car which automatically drives away from dark environments

### Coffee Heat Sensor

- Designed sensor which detects temperature of coffee mug using components, namely **comparators** and **thermistors**