

# Caidyn A. Spickler

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## SUMMARY

Electrical engineering student with experience in technical projects for Engineering Projects in Community Service (EPICS). Also, an Undergraduate Teaching Assistant (UGTA) for EEE120 - Digital Design and a current intern at WSP Global Inc.

## EDUCATION

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<b>BSE Electrical Engineering</b> Arizona State University, Tempe, AZ	December 2025 GPA 4.0
<b>Canyon View High School, Waddell, AZ</b> Earned 6 AP Credits, Valedictorian	May 2022 GPA 5.21

## SKILLS

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Technical: Logic Design, Problem Solving, Teamwork, Leadership, Communication, Calculus, Physics 1, Microsoft Office, Circuits 1, & Physics 2, Circuits 2, Signals & Systems 1, Electromagnetics, Computer Organization & Assembly Language Programming, Revit 2021-2024, Blue Beam

Expected: Analog and Digital Circuits (December), Properties of Electronic Material (December), Hardware Design Language and Program Logic (December), Random Signal Analysis (December)

## PROJECTS

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### **Ethiopia Plastic Reprocessing Project: Engineering Projects in Community Service (EPICS) & Engineers Without Borders (EWB)** January 2023 – December 2023

Part of a team of 28 that is divided into three main sub teams: plastic collection, plastic shredding and injection molding. The sub teams all work together to repurpose the plastic water bottle waste that is littered throughout the Simien Mountains National Park in Debark, Ethiopia.

- Research and Development
  - Worked on researching potential products tourists and natives would both enjoy, in order to build a mold for the machine. Looked at mechanical schematics and started detailing a building materials list.
- Electrical Engineer
  - Separated into a smaller sub team within the injection molding team to work on the electrical components of the machine. I researched and ordered parts and dissected the circuit schematic.

### **Microprocessor – Digital Design**

- This was a small microprocessor, but nonetheless, it was extremely complicated and convoluted. It included a brainless CPU circuit, a controller circuit that encased the ROM values and an address generator circuit to store and load values from. We had to brainstorm, build, understand, test and simulate the design by developing the ROM instructions for the CPU and create a series of RAM values to test the design. For a visual of the project please visit my website! This project took about 4 weeks to complete, but once it was completed there was a huge sense of accomplishment.

### **Solar Power - Power Meter: Circuits 1 Final Design Project**

- The intent was to build a portable power meter for panel technicians to easily measure the output of solar panels. An operational amplifier, Arduino Uno, an LED display, potentiometer, diodes, capacitors and resistors were all used to bring the design to fruition. Check my website for pictures of the successful design. The design was varied to utilize a voltage divider circuit and also accounted for the unidealistic resistance of the diodes used by measuring and implementing those values into the program.

### **Solar Powered Prototype Vehicle**

- Consumer centered design.
  - There were three stakeholders to design for: hotel mogul, fleet commander and a third chosen stakeholder. The entire design process was demonstrated including developing criteria, designing a multitude of options, strategically choosing the best design, circuiting, testing different materials, testing, consumer feedback, etc.
- Won best design.

- This project won many awards and is currently showcased in one of the Engineering Center Labs. The design won best overall design, safest design and most aesthetic design. The project was extremely accurate and successful

## **RESEARCH**

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### **SDRL – Semiconductors and Devices Research Lab**

September 2024 - Present

This is a research lab based around PHD students' theses. As an Undergraduate, we are assigned a topic or paper to digest and bring details back to a monthly meeting in order to progress the projects. The PHD students are the ones who perform the experiments and record their findings in the lab. They report back to the Undergraduate students every week to inform us of their findings. As an undergraduate, we take notes, learn and ask questions about the research performed in order to gain insight about the fab, semiconductors, the process it takes to make them, etc.

## **WORK EXPERIENCE**

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### **Undergraduate Teaching Assistant (UGTA)**

August 2023 – Present

As a UGTA in a “flipped” classroom, focused on Logic Design, the responsibilities include helping students during class by answering questions, providing explanations and giving advice for the course, as well as holding review sessions and evaluating quiz corrections outside of class. To be a UGTA, one must have already excelled in the course, thus this is an earned position because the focus is to help students excel through gained expertise.

### **WSP Global Inc. (Summer: 40 hours/week School: 20 hours/week)**

December 2023 - Present

Electrical Engineering Intern

- WSP is a Global engineering company that has a multitude of branches, but mainly specializes in MEP engineering. I am an intern for the Property & Buildings group at the Tempe location. I have worked on upwards of 20 projects during my time at WSP. As an intern, I help with electrical design, circuiting, fault current calculations using SKM Power tools, photometry and various other power design aspects. I also help with administration work including reviewing submittals, specifications, submitting permits, etc. Working under a PE and studying aspects of Electrical Engineering that are outside my specialty has been a worthwhile experience.

## **ACTIVITIES**

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### **Varsity Basketball, Canyon View High School, Waddell, AZ**

October 2018 – March 2022

- Varsity captain for four years. All Region 1<sup>st</sup> team for 3 years. Nominated defensive player of the year. Highest GPA for girls' basketball in the State.

## **FUNFACT**

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I got accepted into MIT in 2022! It is an immense honor to be accepted by such an accredited university, but some dreams are not financially achievable. Check my website for proof.