BRINDYN E. SCHULTZ

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WHY ELECTRICAL ENGINEERING?

My passion for engineering began during my childhood, ignited by a sense of curiosity that led me to pull apart my toys to glimpse at their inner workings. As I progressed to high school, the fields of physics and chemistry shifted the world around me into something new to explore. Eager to understand our world better, I pursued a university education, channeling my curiosity into ambitious projects involving electrical engineering, physics, chemistry, mathematics, and computer science.

SUMMARY OF TECHNICAL QUALIFICATIONS

APPLICATIONS:

- MATLAB, Octave, KiCad, AutoCAD, Vivado, Microsoft Office, Google Workspace, Visual Studio Code, GitHub, Microsoft Azure, Amazon AWS, UTM, Virtualbox

HARDWARE:

- Power Electronics, PCBs, Raspberry Pi, Arduino, PLCs, CNC Machines, 3D Printers

COMPUTER LANGUAGES:

- C, C++, CNC G/M Code, Python, C#, VBA, HTML, CSS, JavaScript
- VHDL, Verilog, ARMv8, x86

SPOKEN LANGUAGES:

- English-Fluent (Native), Spanish-Fluent (Second Language)

PROFICIENCIES:

- Electric Circuits, Electronic Design, Signal Processing, Control Systems Design, Power Systems, Manufacturing, Physics, Chemistry, Semiconductor Design, Energy Generation, Automation, FPGA

EDUCATION

Bachelor of Science in Electrical & Computer Engineering Expected: May 2024
Minor in Mathematics
Lewis University, Romeoville, IL

Bachelor of Science in Computer Science Expected: May 2024
Lewis University, Romeoville, IL

WORK EXPERIENCE

Nanomaterials Researcher Part-time: October 2023 - Present
Kissel Lab, Romeoville, IL

- Worked with a team of chemistry researchers to find a reliable, low-cost method for producing hydrogen gas. Used my physics knowledge to create an equipment setup for measuring low volumes of gasses with high accuracy. Gave regular presentations on the research, and helped write two official ACS research papers.

CNC Vertical Mill Machinist Full-time: August 2023 - Present
CNC Machinist Trainee Full-time: January 2023 - August 2023
Walco Tool & Engineering, Romeoville, IL

- Worked with other machinists to create parts for a large variety of industries with a large emphasis on quality. Used workshop equipment and tools regularly and performed daily preventative maintenance. Worked closely with skilled manufacturing engineers and project engineers to optimize workshop efficiency.

Engineering Assistant at Lewis University Part-time: November 2021 - January 2023
Lewis University, Romeoville, IL

- Developed a system for managing inventory using a mobile app with an easy-to-use check-in and check-out system. Integrated RFID in the lab for larger equipment. Developed a program for the ECE department to auto-populate fields of a PDFt. Created and tested instructional labs for use in freshman and sophomore level undergraduate ECE classes.

NOTABLE PROJECTS

DYNAMIC ALL-ELECTRIC VEHICLE WITH INTELLIGENT DEVICES (D.A.V.I.D):

- This electrical engineering senior capstone project involved creating an electric go-kart from a salvaged lawnmower, showcasing our ingenuity in sustainable transportation. We designed the vehicle from scratch, incorporating an advanced object-detection system for automatic brake activation, enhancing safety and efficiency.

SOLAR WATER ELECTROLYSIS RESEARCH:

- Within a chemistry research team, I contributed to a groundbreaking project focused on harnessing solar power for water electrolysis to produce hydrogen gas. Through experimentation and innovation, our team achieved success. My significant contribution to the project was the design of a precision measuring device capable of accurately measuring small volumes of gas.

VOICE-CONTROLLED VENDING MACHINE:

- Motivated to address the need for contactless interactions during the COVID-19 pandemic, I designed a voice-activated vending machine. This project not only showcased my technical skills but also demonstrated my ability to innovate in response to real-world challenges. I had the opportunity to present this project at my university on two separate occasions, sharing its potential impact with the academic community.

PIP-1 COMPUTER IN MINECRAFT:

- In my computer architecture course, I explored the theoretical PIP-1 computer. As a personal project, I recreated it in Minecraft, documenting the process in a YouTube video and presenting it in class. This endeavor deepened my understanding of electronic systems and sparked engaging discussions among classmates.

SPORTS PREDICTION IN EXCEL:

- Using my foundation in linear algebra and data science, complemented by newly acquired skills in VBA programming, I developed a sports prediction interface tailored for forecasting NFL game outcomes. Originally aiming for a 60-65% prediction accuracy, I surpassed expectations by achieving an impressive 70% success rate on average.

ACTIVITIES

- Lewis University IEEE Student Branch, 2021 – Present
  Chair, 2022
  Vice Chair, 2021
  Member, 2021

- Lewis University Society of Physics Students (SPS), 2021 – Present
  Member, 2021

- Lewis University Chess Club, 2021 – Present
  Vice President, 2023
  President & Founder, 2021