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## Education

### University of Illinois at Urbana Champaign

August 2021 - May 2025

- *Grainger College of Engineering*: B.S. in Computer Engineering
- *Cumulative GPA*: 3.30

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## Professional Experience

### Data Annotation, Software Developer

April 2024 - February 2025

- Qualitatively improved 20+ AI coding models from contracted companies, targeting model efficiency and accuracy
- Involved developing multilingual software for machine learning, debugging generated code, and refactoring code

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## Research

### FPGA Granular Synthesizer, FPGA / Embedded DSP

December 2024 - Present

- Working with Associate Professor Thomas Moon to develop a granular vocal-recorded synthesizer on a DE10 board
- Provides functionality for independent pitch, speed control, grain parameter adjustment and desktop interfacing

### PURE Research Mentorship, Aerospace / Data Programming

August 2022 - January 2023

- Worked under PhD alongside a 10-person research team to develop aerospace research regarding wind tunnels
- Specifically aided in applying sorting algorithms and data conversion techniques in Python for research data

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## Technical Projects

### Android-Embedded Security System, DSP Programmer

August 2024 - December 2024

- Implemented manual object and color recognition in real-time to identify and store people in integrated database
- Optimized self made DB-scan, k-means, and flood-fill algorithms for real-time processing on Android hardware

### Laser/Voice Assisted Cat Toy, Senior Design Project Lead

August 2024 - December 2024

- Created autonomous cat toy capable of collision avoidance, treat dispensing, catch detection, and audio commands
- Lead a team of 3 with PCB development, CAD modelling, and Arduino programming for motorized outputs
- Award-winning and top 15% project, honorably recognized by professors during senior design awards ceremony

### Illini Harmonics, Full-Stack Software Developer

January 2024 - May 2024

- Developed music-based social platform with SQL, React, and JavaScript for rating user's Spotify listening history
- Worked as backend, frontend, and web server developer, doing API connection, user interface, and data management

### FPGA Soccer Heads, Lead FPGA Programmer

September 2023 - December 2023

- Led the recreation of a physics-based soccer game using Microblaze hardware, SystemVerilog, C, and SPI protocols

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## Honors and Certifications

### Illinois Engineering Premier Scholarship, Recipient

August 2021 - May 2025

- Awarded a full-ride scholarship to attend for Computer Engineering, evaluated upon high academic achievement

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## Technical Skills

**Programming Languages:** SystemVerilog, C++, C, Python, SQL, Java, JavaScript, HTML, CSS, x86 Assembly

**Hardware Design:** FPGA, Microblaze, DE10, PCB Design, Embedded Android Systems

**Tools And Platforms:** Xilinx Vivado, Vitis, Android Studio, Autodesk Inventor, Visual Studio, Quartus Prime, Linux, Git

**Spoken Languages:** English and Polish, both as a native speaker, intermediate Italian proficiency

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## Relevant Coursework

**Digital Systems Laboratory:** Worked with FPGA systems, transistor-transistor logic, and SystemVerilog

**Embedded DSP Lab:** Used image and signal filtering, data sampling, and transformation systems in Android systems

**Computing Systems Engineering:** Developed Linux operating system utilizing C and x86 assembly languages

**Artificial Intelligence:** Learned classification models, big data, natural language processing, computer vision, and robotics