

# WILLIS ERDMAN

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Technically skilled candidate with hands-on experience in machine learning, wireless sensors, and data optimization, seeking to apply engineering and leadership expertise.

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## EDUCATION

### CASE WESTERN RESERVE UNIVERSITY

Graduation May 2027.

*B.S.E. in Electrical Engineering and Computer Science, **GPA 4.0/4.0.** Cleveland, Ohio.*

- Dean's High Honors. Studied at uc3m. Courses taken: Discrete Math, Data Structures, Algorithms, Linear Algebra, Differential Equations, EMF Physics, Circuits II, Digital Logic Design.

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## EXPERIENCE

### PORTLAND STATE UNIVERSITY

June – Sep 2024.

*Research Intern, Department of Electrical and Computer Engineering (MCECS). Portland, Oregon.*

- Developed and implemented machine learning models to accurately predict coffee roast specifications based on unique gas and RADAR fingerprinting data; achieved a 95% prediction accuracy.
- Created a data pipeline for APRS telemetry and Meshtastic sensor data using SvelteKit and Chart.js.
- Reduced packet sizes by 75% for transmission efficiency and improving real-time data visualization.
- Developed Raspberry Pi 5 and Pico-based environmental sensor networks using an IoT framework.
- Enabled data transmission from locations 50km from civilization for environmental monitoring.

### ASIACOM AMERICAS

June – Sep 2023.

*Data Center Technician. Hillsboro, Oregon.*

- Led a team of 5 in identifying and resolving 10+ common installation issues.
- Conducted comprehensive quality assurance on TikTok and Bytedance servers before installation; ensured seamless deployment by identifying potential issues, leading to improved server uptime.
- Executed post-assembly maintenance on over 30 server racks (weekly) to address issues after delivery.

### STARBUCKS

June 2021 – Nov 2022.

*Barista. Portland, Oregon.*

- Collaborated with a 10-person team to achieve shared goals.
- Created a positive customer experience for upwards of 50 customers an hour.

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## SKILLS AND LANGUAGES

- English (native); Spanish (native/fluent).
- C++, Java, Python, R, TypeScript/JavaScript/HTML/CSS, MATLAB, SystemVerilog, SQLite, Firebase, Git. Soldering, PCB design, SOLIDWORKS/Fusion 360, MultiSim.

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## AWARDS AND ACTIVITIES

### WON CITADEL LLC / CITADEL SECURITIES' `TERMINAL` CODING COMPETITION.

Sep 2023.

- Developed a competitive agent for a real-time strategy tournament, optimizing for limited compute time and memory usage to enhance performance under constraints.
- Conducted rigorous testing on 15 different models, ultimately optimizing the agent to utilize the allotted 5 seconds of compute per turn, significantly improving efficiency.
- Implemented advanced AI techniques to track opponents' moves and pawn positions, allowing for adaptive and strategic responses during gameplay, which contributed to the team's victory.

### VTOLCWRU – DESIGN, BUILD, FLY COMPETITION

Sep 2023 – present.

- Designed and integrated flight control systems, including sensor arrays, navigation electronics, and communication modules, enabling precise autonomous navigation through a 400-yard circuit.
- Conducted detailed PCB design for avionics using KiCAD, considering weight and size constraints.
- Integrated wireless communications systems, enabling live off-board compute during flights.

## OTHER

- FCC Amateur Radio Service Operator – Technician Class.
- Also interested in travel, hiking, and soccer.