Maxwell T. Krieger

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Education

University of Illinois Urbana Champaign| Champaign and Urbana, IL *Fall 2025 (expected)*
Bachelor of Science in Electrical Engineering, Minoring in Computer Science GPA: 3.45

Experience

Exelon ComEd
Electrical Engineering Intern *June 2023 - August 2023*

- Collaborated with senior engineers to design electrical systems, including drafting schematics, conducting simulations, and performing computations.
- Participated in testing and commissioning of new equipment and systems, ensuring successful implementation.
- Provided support for ongoing maintenance activities, including troubleshooting and repair of equipment, contributing to minimized downtime and increased reliability.

Zebra Mussel Coast Guard
Data Analysis and Research Intern *August 2021 – May 2023*
The Zebra Mussel Coast Guard is a government funded organization formed in the Great Lakes area to test, develop, and distribute Earthtec QZ copper solutions to eliminate the infestation of Zebra Mussels in fresh water bodies.

- Conducted statistical analysis and applied data visualization techniques to analyze Zebra Mussels and Veligers.
- Gathered and processed data on population dynamics in Earthtec QZ treated lakes and control group lakes.
- Led a team of twenty summer interns, providing guidance on data collection and interpretation.
- Collaborated with professionals to develop data-driven strategies for combating Zebra Mussel infestation.

Projects

Meal Recommendation System and Cooking Assistant
Python, HTML, CSS, JavaScript

- Developed a cooking and recipe assistant using the Flask framework and OpenAI's GPT-3.5-turbo model.
- Implemented a chat-based interface allowing users to interact with the cooking assistant.
- Integrated OpenAI's ChatCompletion API to generate responses based on user input and predefined system guidelines.
- Restricted the assistant to respond only to questions related to cooking, food, nutrients, or meal prep.
- Designed a user-friendly web interface using HTML, CSS, and JavaScript.
- Handled user input and displayed the assistant's responses in the chat container.

Terminal Based 2048 Game
C

- Designed and implemented the core game logic, including board initialization, tile movement, merging, and scoring calculations.
- Developed an efficient data structure for representing the game board, optimizing memory usage and ensuring fast tile lookups.
- Employed dynamic memory allocation and deallocation techniques to manage the game board and tile objects.
- Employed version control (e.g., Git) to manage code revisions and collaborate effectively with team members.

spacEdu
Swift

- Utilized front-end technologies like uitouch and uiswipe to design multiple interactive interfaces, providing users with a seamless and intuitive experience when interacting with celestial objects
- Employed auto-layout and constraints to ensure app was responsive and adaptable to different devices and screen sizes.
- Conducted extensive testing and debugging of the application using Xcode's debugging console and simulator

Sound Detecting Car (ECE 110 Group Final Project)

- Designed and implemented a sound detecting car by building an H-bridge, microphone, DRAM, and amplifier
- Used amplifiers to boost the microphone signal voltage and employed memory to maintain motor movement and increased the duration of sound detection using RC time constants
- Addressed impedance matching issues to ensure proper signal flow and circuit behavior

Technical Skills

Languages: Python, C, C++, Java, HTML, CSS, Swift
Developer Tools: Git, Linux Environments, Visual Studio Code, Docker, Xcode, Quartus