

## EDUCATION

University of Illinois, Urbana-Champaign

*Bachelor of Science in Computer Science & Statistics | GPA: 3.7/4.00*

Urbana, IL

Aug 2020 – Dec 2024

Coursework: Data Structures, Systems Programming, Computer Architecture, Algorithms & Models of Computation, Programming Languages and Compilers, Advanced Math & Statistics

Extracurriculars & Honors: Cybersecurity Club, Dean’s List, Boxing Club, Jiu Jitsu Club

## EXPERIENCE

Sandia National Laboratories

*Software Engineer Intern*

Albuquerque, NM

May 2024 – Aug 2024

- Optimized runtime of a C++ correlation algorithm by 40% through advanced mathematical techniques and implementation of C++ best practices.
- Applied multivariate covariance analysis to improve algorithm stability, leading to a 100x reduction in numerical error.
- Refactored legacy C code to modern standards, increasing readability, maintainability, and security.
- Diagnosed and fixed bugs in correlation computations, preventing false positives in the model.

ALDI USA

*NIT Intern*

Aurora, IL

May 2023 – Aug 2023

- Developed new classes & HTTP requests in C# for the ALDI Real Estate Portal allowing for additional store information, such as, grocery cart type, to be logged, edited, and deleted.
- Automated Java update identification for thousands of ALDI systems using Python, and speeding up the process of updating Java across the company, saving IT  $\approx$  2 hours each week throughout the update process.
- Automated the process of translating EMV codes using Python, saving IT critical debugging time during payment system outages.
- Contributed to AGILE development sprints, attended daily standups, and collaborated with a team of 5 developers to complete our sprint goals.

University of Illinois

*Lead Data Structures Teaching Assistant*

Urbana, IL

Jan 2023 – Dec 2024

- Led a team of 5 staff in updating and maintaining course assignments and infrastructure for 1000+ students.
- Identified and patched a vulnerability in the course’s autograder that allowed students to elevate to root and run arbitrary code.
- Automated configuration of students’ developer environments using Docker and shell scripts.
- Created assignments covering the implementation of Bloom filters, the A\* algorithm, and BFS.

## PROJECTS

Royale-API: Deck Generator WebApp for Clash Royale | FLASK, Python, Javascript, MySQL, html, CSS

- Built a Flask-based web application to generate and search for Clash Royale decks using card data and player statistics.
- Integrated with the Clash Royale API to fetch real-time player and card data, storing it in a MySQL database for efficient querying.
- Designed RESTful endpoints to allow users to search for decks by card names or generate random meta decks.
- Implemented dynamic front-end features using JavaScript and AJAX for seamless user interaction.

Song-Recs: Song Recommendations SpringBoot WebApp | Java, Spring Boot, Thymeleaf, MySQL

- Developed a Spring Boot application to provide song recommendations based on track, artist, album, genre, and tempo.
- Integrated with the Deezer API to fetch song data and cached the results in a MySQL database to improve performance.
- Harnessed RESTful endpoints to search for songs and getting recommendations.
- Worked with Thymeleaf to implement the server side of the web application.

DnD-Characters: Dungeons and Dragons Character Management WebApp | MERN Stack

- Developed a web application for managing your Dungeons and Dragons characters using a MERN stack.
- Implemented a RESTful API for creating, updating, and deleting characters and storing them in a MongoDB database.
- Created a user interface for viewing and managing characters, including their stats, backgrounds, and abilities.
- Utilized paseto tokens for user authentication and authorization, allowing secure access to user data.

## SKILLS & INTERESTS

Programming Languages: Python | C++ | C | Java | JavaScript | C#

Computer Skills: Docker | GitHub | GDB | Linux | Backend | Debugger | Valgrind

Soft Skills: Teaching | Interpersonal Skills | Communication | Writing | Problem Solving | Leadership | Time Management

Interests: Programming | Projects | Systems | Cybersecurity | Reading | Traveling