Neil Kozlowski

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Education

University of Illinois, Urbana-Champaign — *Urbana, IL*

Bachelor of Science in Computer Science & Statistics | GPA: 3.65/4.00 — 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 — *Albuquerque, NM*

Software Engineer Intern — May 2024 – Aug 2024

- Optimized runtime of a C++ correlation algorithm by 40% through advanced mathematical techniques and implementation of C++ best practices.
- Implemented N-ball covariance to increase classification accuracy, increasing the model's accuracy by over 100%.
- 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 — *Aurora, IL*

NIT Developer Intern — May 2023 – Aug 2023

- Developed new class and 12 HTTP requests in C# for the ALDI Real Estate Portal allowing for additional store information to be logged and edited.
- Automated Java update identification for thousands of ALDI systems using Python, and speeding up the process of updating Java across the company, saving IT dozens of hours each week throughout the update process.
- Automated the process of translating EMV codes using Python, saving IT 3 hours per week.
- Contributed to AGILE development sprints, attended daily standups, and collaborated with a team of 5 developers to complete our sprint goals.

University of Illinois — *Urbana, IL*

Lead Data Structures Course Assistant — Aug 2023 – Present

Data Structures Course Assistant — Jan 2023 – Aug 2023

- Led a team of 5 staff in updating and maintaining course assignments and infrastructure.
- 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

Flight-Paths: Analysis of Flight Paths Accross the World

- Performed comprehensive data analysis of flight paths across the world using C++.
- Used Dijkstra's algorithm, Tarjan's strongly connected component algorithm, and depth first search to answer various questions about the flight paths dataset.
- Created a visualization of flights across the world using the Mercator projection.

Password-Manager: Password Manager Extension

- Wrote a password manager extension for chrome that creates, stores, and autofills passwords, in JavaScript.
- Implemented an algorithm that encrypts passwords using a master key, allowing for their secure storage.
- Built a secure method of mapping website names to encrypted passwords, preventing malicious websites from reading passwords for other websites.

GitHub: Visit my GitHub to see my other projects

Skills & Interests

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

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

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

Interests: Programming, Projects, Data Science, Cybersecurity, Reading, Traveling

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