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 average 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 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 ≈ 5 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 *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 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

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