Neil Kozlowski

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Education

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

B.S. in Computer Science & Statistics, Minor in Math | 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

Experience

Sandia National Laboratories *Albuquerque, NM*

Software Engineer Intern May 2024 – Aug 2024

- Optimized C++ code responsible for computing correlation between objects to run 40% faster
- Implemented N-ball covariance increasing classification accuracy many times over in C++
- Modernized old C code increasing readability, maintainability, and security
- Fixed bugs causing incorrect correlations for certain objects

ALDI USA *Aurora, IL*

NIT Developer Intern May 2023 – Aug 2023

- Supported the development of AREP (ALDI Real Estate Portal) by implementing HTTP Requests and a new Class in C#
- Participated in ALDI's agile development environment
- Wrote Python script to check which computers need Java updates saving IT hours each day
- Wrote Python script to automate translation of EMV codes

University of Illinois *Urbana, IL*

Lead Data Structures Course Assistant Aug 2023 – Present

Data Structures Course Assistant Jan 2023 – Aug 2023

- Promoted to a Lead Course Assistant because of demonstrated leadership and commitment to improving the course
- Tasked with leading the development team responsible for updating our assignments and infrastructure
- Fixed vulnerability in the course's autograder that allowed students to run arbitrary code as the root user
- Wrote shell scripts that automatically configure students' developer environments
- Created assignments covering the implementation of Bloom filters, the A-star 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

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

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

Interests: Programming, Projects, Mathematics & Statistics, Game Design, Cybersecurity

Rev. October 3, 2024