James Kocak

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SUMMARY

I excel in coding, debugging, and innovative problem-solving with a strong engineering mindset, contributing significantly to various academic projects. Proficient in analyzing complex issues and adept at diagnosing and repairing problems.

EDUCATION

North Carolina State University | Raleigh, NC **Anticipated May 2025**
Bachelor of Science in Computer Science
GPA: 3.5/4.0
Relevant Courses: Data Structures & Algorithms, Software Engineering, C/Software Tools, Operating Systems, Interactive Game Design, Software Development Fundamentals, Discrete Mathematics

SKILLS

Languages: Java, C, C#, HTML, CSS, SQL
Software: Git/Github, JUnit, Jenkins, Linux, Eclipse, VSCode, Unity, GDB, GNU Make
Technologies: AngularJS, Hibernate, Spring by Pivotal, Apache Tomcat, GitHub Actions, { REST }, Maven

PROJECTS

Coffee Maker Full-Stack Project **January 2024 - Present**

- Collaborated with a team to develop a full-stack coffee ordering application, taking a leading role in organizing the timeline of task completion
- Utilized **MySQL** to manage and store project data, i.e., coffee recipes and inventory
- Implemented **REST APIs** to facilitate seamless communication between frontend and backend
- Automated testing with **GitHub Actions**

Shortest Path Algorithm and Data Structure Optimization Project **January 2023 - April 2023**

- Developed a **Java**-based solution to address a real-world version of the shortest path problem, a fundamental challenge in optimizing routes and navigation.
- Implemented a Bidirectional Search Algorithm with a Graph, utilizing an adjacency list represented as an array of linked lists to achieve an efficient time and space complexity of $O(b^{d/2})$ for searches.
- Tested the code through **JUnit** testing with more than 80% coverage
- Automated testing with **Jenkins**

Advanced Encryption Standard (AES) Project **January 2023 - April 2023**

- Developed a program in **C** to perform AES encryption and decryption, demonstrating proficiency in low-level programming and cryptographic algorithms
- Incorporated a **Makefile** to streamline the build process and ensure efficient code compilation and organization
- Analyzed code with **GDB** for in-depth debugging and analysis, identifying and resolving complex issues within the codebase to enhance program efficiency and stability.
- Employed **Valgrind** to detect memory leaks, improve memory management, and ensure the robustness of the code, contributing to a more reliable and secure software application.

Interactive Game Design Project **August 2023 - December 2023**

- Designed a puzzle platformer game called “Snow Shelter” for an Interactive Game Design Class with a team
- Utilized the **Unity Game Engine** with **VSCode** as a code editor for the various **C#** scripts used in the game’s coding
- Employed version control systems like **Git** for managing and tracking changes, fostering smooth collaboration among team members.
- Playtested using various methods such as **One-on-One Testing**, **Group Testing**, and an **Open Discussion** format

PROFESSIONAL EXPERIENCE

Target | Front of Store Attendant | Charlotte, N.C. **December 2020 - December 2022**

- Learned new skills quickly and applied them to daily tasks, improving efficiency and productivity.
- Acted according to customers' requests, confirming full understanding before addressing concerns.