ANNICA McLEAN

Software Engineer

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PROFESSIONAL OBJECTIVE

Detail-oriented and solution-driven Computer Science student with a strong academic foundation in systems programming, algorithms, data structures, and software engineering. Proven ability to apply theoretical concepts in real-world development environments through personal projects and teaching assistant experience. Currently seeking opportunities to apply strong technical and analytical skills in a fast-paced engineering environment.

TECHNICAL SKILLS

Programming Languages: Java | Python | C | C++ | JavaScript | TypeScript | SQL | Assembly (MIPS/x86)
Tools & Frameworks: Spring Boot | Freemarker | Node.js | SQLite | Git| HTML | CSS | Pug | WebSockets | React
CS Concepts: Object-Oriented Programming (OOP) | Data Structures & Algorithms | Operating Systems| System Calls | Memory Management | RESTful API Design | Concurrency | Threading | Relational Databases
Math & Analytical: Linear Algebra | Discrete Math | Statistical Inference

SOFT SKILLS

Collaborative Teamwork | Analytical Problem-Solving | Technical Communication | Peer Mentorship

PROFESSIONAL EXPERIENCE

Computer Science Teaching Assistant | University of North Carolina at Greensboro Aug 2022 – Present

- Provide ongoing academic support to over 100 students in foundational computer science courses, including object-oriented programming, data structures, and algorithm analysis.
- Lead collaborative problem-solving sessions and conduct office hours to reinforce course content and cultivate student confidence in core CS concepts.
- Evaluate student assignments with an emphasis on code quality, efficiency, and adherence to best practices.
- Utilize tools like Canvas to manage coursework and provide detailed, timely feedback.

PROJECTS

Air Traffic "Ground Control" Server | GitHub link |
Skills; C, POSIX Threads, Mutexes, Thread Synchronization

- Designed and implemented a multi-threaded simulation in C to replicate real-time air traffic control systems, emphasizing concurrent takeoff handling and resource sharing.
- Applied low-level systems knowledge to manage race conditions using mutex locks and thread synchronization primitives.
- Optimized queueing algorithms to ensure fairness and throughput in high-load simulations with dynamic client connections

Spartan Auction Platform | GitHub link |
Skills: Spring Boot, Freemarker, MySQL, REST APIs, WebSockets

- Engineered a robust full-stack auction platform from scratch, allowing users to securely create, bid on, and monitor live auctions.
- Integrated real-time communication with WebSockets to reflect bid changes instantly, enhancing user experience.
- Developed back-end controllers, database models, and session management logic with RESTful principles and Spring MVC.
- Focused on scalability and lifecycle logic for bid tracking, auction timing, and data consistency.

EDUCATION

BACHELOR'S DEGREE | Computer Science | University of North Carolina at Greensboro 2021 – 2025
MINOR| Mathematics | University Name 2021 – 2025