David Nguyen

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Objective

Seeking a challenging internship opportunity in the field of computer science where I can apply my technical skills, coursework knowledge, and project experience. Eager to contribute to real-world projects, learn from industry professionals, and further develop my proficiency in software development and data management.

Education

Texas A&M University **Aug. 2022 – May 2026**
Bachelor of Science in Computer Science, GPA: ***3.767*** *College Station, Texas*

Projects

Java Wordle Application | *Java, JavaFX, Maven, CSS* **May 2024**

- Developed a multi-platform JavaFX application that simulates Wordle, and provides an interactive user interface with custom graphics.
- Built using Java 11 and JavaFX for the GUI components. Integrated Maven for project management and build automation. Employed MVC architecture to separate the application logic from UI, enhancing maintainability and scalability.
- Features implemented include real-time word validation, score tracking, and serialization/deserialization of saved game data. Overcame challenges related to cross-platform UI consistency and performance optimizations for real-time user interactions.
- Demonstrated skills include advanced Java programming, GUI design, software debugging, and performance optimization.

Unordered Map Implementation | *C++* **April 2024**

- Developed an associative container, mimicking std::unordered_map, to store key-value pairs.
- Achieved efficient O(1) average time complexity for insertion, deletion, and search operations using hash functions.
- Implemented various private helper functions and iterators to manage bucket indexing, node insertion, and element lookup.
- Created two custom hash algorithms (Polynomial Rolling Hash and FNV-1a) to enhance data distribution and collision resolution.

Dining Hall Review Application | *JavaScript, Puppeteer, MongoDB* **July 2023**

- Designed and implemented a user-friendly platform with a colleague for students to review dining hall meals, improving mealtime decisions and fostering community feedback.
- Leveraged Puppeteer to automate the scraping of daily menu data from the university's dining website, ensuring real-time accuracy of meal information.
- Utilized MongoDB as a backend database to efficiently store hundreds of food items and retrieve user reviews, ratings, and menu details.
- Integrated user authentication and profile management, allowing personalized review history and meal preferences for a tailored user experience.

Technical Skills

Programming Languages: Python, C++, Java, JavaScript, R/RStudio
Database Management: MongoDB, Cloud Firestore
Tools and Platforms: Jupyter Notebook, Postman, VSCode, Linux, Git/GitHub, Microsoft Office
Web Development: Express.js, Node.js, Firebase, Expo

Relevant Coursework

- Computer Organization
- Statistics
- Data Structures & Algorithms
- Program Design (C++)
- Computing (Python)
- Linear Algebra