TALHA SHAHAB

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EDUCATION

George Mason University

Fairfax, VA

BACHELORS OR ARTS AND SCIENCES

Expected May 2026

- Pursing a major in Computer Science in the Engineering School.
- Relevant Coursework: Discrete Mathematics; Data Structures and Algorithms; Low-Level Programming; Computer Science Essentials; Software Usability Analysis and Design;

SKILLS

- Languages: Java | Python | HTML | CSS | JavaScript | SQL | Kotlin | C# | C
- Tools: Visual Studio Code | Eclipse | GIT | PyCharm | Unix/Linux
- Frameworks: Django | PyGame | JavaFX | Junit | Node | React | Springboot

WORK EXPERIENCE

Weblems March 2023

FULL STACK DEVELOPER

- Applied Agile methodologies throughout the software development lifecycle, collaborating with stakeholders to define project scope, secure client approval, and document performance criteria, resulting in a high-quality, user-centered solution.
- Designed and implemented RESTful APIs to facilitate seamless communication between the Node.js/Express.js frontend and the Flask-based Python backend, enabling real-time data exchange using AJAX requests.
- Utilized PostgreSQL to design a relational database schema and developed a custom SQL query builder, allowing users to generate complex queries based on frontend filters for efficient and accurate data retrieval.
- Integrated functionality to process and import data from .xlsx files into the database, providing users with flexible querying capabilities via the application interface.
- Ensured application security by implementing CORS policies, ensuring that only authenticated requests were processed by the system and enhanced the frontend using jQuery, HTML, CSS, and JavaScript, delivering a responsive and user-friendly interface that improved user experience.
- Conducted code reviews, implemented Git version control, and collaborated effectively with client to troubleshoot issues and deliver a scalable application aligned with end-user requirements.

PROJECTS AND TECHNICAL EXPERIENCE

Hotel Management Application

Woodbridge, VA March 2023

Java | JavaFX

Designed a responsive user interface using JavaFX, leveraging advanced UI components and animations to create a visually
appealing and intuitive experience for users

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 Implemented a modular application architecture using object-oriented programming principles, including encapsulation to
- safeguard user data, inheritance to avoid redundancy, polymorphism and abstraction to ensure code reusability.

 Implemented secure authentication mechanisms with Regex for password validation, and implemented encryption techniques for securely storing and decrypting user credentials in text files.
- Utilized Linked Lists and Array Lists to manage dynamic data, such as room assignments, user profiles, and payment records, ensuring efficient data handling and seamless system operations.
- Engineered file I/O operations with File Handling, creating a lightweight database solution for encrypted user and room data storage, and implemented robust exception handling for fault tolerance.

Type Master June 2023

Python | Pygame

- Developed a gamified typing practice application in Python, inspired by the classic arcade game Galaga, to improve typing skills through an interactive and engaging experience.
- Utilized PyGame module to design and implement game mechanics, including dynamic graphics, sound effects, and sprite interactions.
- Leveraged hash-chaining for efficient word management, enabling rapid storage, retrieval, and randomization of thousands of words from a dictionary during gameplay.
- Designed dynamic ship movement and implemented difficulty scaling, integrating randomized motion paths and velocities while progressively increasing speed and complexity based on the player's typing accuracy and efficiency.
- Parsed and processed input data from external text files, initializing the game's dictionary while ensuring seamless integration with the hash table for randomized word retrieval.