Tyler Semel

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Education

North Carolina State University   **Aug. 2021 – Dec. 2023**
Bachelor of Science in Computer Science   *Raleigh, NC*

Technical Skills

Languages: C/C++, C#, Java, JavaScript, HTML/CSS, SQL, Scheme
Developer Tools/Engines: Unreal Engine 5, Unity, VS Code, Eclipse, Docker
Technologies/Frameworks: GitHub, JUnit, Jenkins, REST API, Hibernate, Spring Boot, AWS

Projects

"Random Forests" - Senior Design Project   **Aug. 2023 – Present**
- Developed children's educational game for Non-Profit organization Katabasis.
- Led efforts to attain 70% line and method coverage using Unity's built-in testing framework, emphasizing a commitment to code reliability and efficient development practices.
- Enhanced player interaction by implementing intricate in-game mechanics, allowing the player to select and highlight specific paths using the A* search algorithm.
- Held weekly product reviews for the sponsor's vision, address concerns, and align deliverables with brand objectives.

"Dream Files" - Puzzle-Platformer Video Game   **Feb. 2023 – May 2023**
- Collaborated with two developers to implement a 20 minute first-person puzzle-platformer game in Unreal Engine 5.
- Developed an immersive level, integrating a custom jump mechanic for navigation through a woodland environment.
- Programmed in Blueprints using sphere tracing to allow the player to interact with objects in a puzzle-solving system.
- Utilized Quixel Bridge assets for visuals and integrated sounds for an engaging puzzle-solving experience.

"CoffeeMaker" - Software Engineering Group Project   **Feb. 2023 – Apr. 2023**
- Co-led a team of five software engineers in a semester project tasked with planning and implementing a drink ideas sharing and sales platform.
- Outlined requirements and use cases for customer and manager functionality.
- Designed and implemented REST API endpoints to communicate between models in Java with Spring Boot, Hibernate, and a database through MySQL.

"Recipe Social" - Progressive Web App for Recipe Sharing   **Jan. 2023 – Apr. 2023**
- Teamed with two other members to create a social media Progressive Web App for recipe details.
- Created REST API to receive saved recipe data for a user and to allow users to follow each other.
- Implemented user authentication and authorization using Node.js with "jsonwebtoken" for JWT generation and verification.
- Utilized Docker to create images of the PWA to build and test its functionality.

Work Experience

The Hickory Tavern   **July 2023 – Present**
Server   *Holly Springs, NC*
- Developed strong communication skills by effectively interacting with customers, kitchen staff, and management.

PetSmart   **Feb. 2019 – July 2020**
Sales Associate   *Cary, NC*
- Successfully persuaded customers to donate, collecting 150 more food cans than any other store in the county.

Relevant Courses

- C and Software Tools
- Operating Systems
- Data Structures and Algorithms
- Software Engineering
- Artificial Intelligence
- Interactive Game Design
- Applied Web-Based Client-Server Computing
- Computer Graphics

Interests

- Game development club at North Carolina State University.
- Passionate gamer (Fortnite, Skyrim, Portal, Journey).
- Interested in music and art projects.