

TYLER SEMEL

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Education

North Carolina State University

Bachelor of Science in Computer Science

Aug. 2021 – Dec. 2023

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 – Dec. 2023

- Developed children’s educational game with Unity and C# 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 A* search algorithm.
- Held weekly product reviews to address concerns and keep deliverables aligned 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, implementing, and documenting a drink purchasing system.
- 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 recipes.
- Designed HTML and CSS for user-saved recipes, account management, and user-to-user interaction such as following.
- Implemented user authentication and authorization with Node.js’s “jsonwebtoken” for JWT generation and verification.
- Utilized Docker to create images of the PWA to build and test functionality.

Work Experience

The Hickory Tavern

Server

July 2023 – Present

Holly Springs, NC

- Developed strong communication skills by effectively interacting with customers, kitchen staff, and management.

PetSmart

Sales Associate

Feb. 2019 – July 2020

Cary, NC

- Successfully persuaded customers to donate, collecting 150 more food cans than any other store in the county.

Relevant Courses

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

Interests

- Game development club at North Carolina State University.
- Passionate gamer (Fortnite, Skyrim, Portal, Journey).
- Music production and art projects.
- Learning Japanese.