Tate House

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I am enthusiastic about leveraging my technical skills and desire to collaborate within a team to contribute to real-world products while expanding my knowledge from experienced engineers. I am passionate about C++, C#, design patterns, and software architecture. Some of my other interests include databases (SQL and NoSQL), data structures, optimization, and real-time rendering.

Education and Certifications

The University of North Carolina at Wilmington   January 2023 – December 2024
Bachelor of Science in Computer Science
- GPA: 3.857
- Dean's List: Fall 2023; Spring 2024
- Clubs: Treasurer of the Running Club; Member of the Student's for Life Club;

Forsyth Technical Community College   May 2020 – July 2022
Associate in Science
- GPA: 4.0
- Graduated with High Honors
- President's List: Spring 2022; Fall 2021; Spring 2021; Fall 2020

Certified Scrum Master (CSM)   September 2022
Certified Scrum Developer (CSD)   February 2023

Work Experience

Associate Race Director   March 2023 – Present
It's Go Time | Wilmington, NC
- Announce finishers and other race day information
- Oversee technology systems (RFID timing, clocks, cameras, audio)

Software Development Intern   May 2024 – June 2024
Surgical Review Corporation | Remote
- Worked within the C# ASP.NET backend and Angular frontend, fixing numerous bugs and adding new features while also collaborating with other developers

Personal Projects

Contact House API
Developing a backend API for managing contact information using ASP.NET Core Minimal Web API. Leveraging libraries such as NUnit, Moq, Ardalis.Specification, AutoMapper, Fluent Validation, MediatR, and Entity Framework Core. Adhering to SOLID principles while using a clean architecture approach with basic CQRS for a clean and easily extensible and modifiable application.

Morning Patch
A web application designed for Steam users who want to stay up-to-date on the latest news and patch notes for the games they own on Steam. The backend API was developed using ASP.NET Core Minimal Web API, while the frontend was created using Blazor WebAssembly. The entire application uses Docker Compose for packaging and deployment, with PostgreSQL for data persistence.

Procedural Maze Generator
Implemented various procedural maze generation algorithms in C++. Leveraged OpenCV for transforming generated mazes into PNG images. Developed a command-line interface for exporting, generating, and visualizing procedural mazes.

Algorithms and Data Structures
Implemented generic algorithms and data structures in C++. Used Google Test / Mock for automated testing. Streamlined build processes and dependency management with CMake and vcpkg. Future plans include but are not limited to more implementing more collections, refactoring collections to support specifying an allocator, and implementing versions of each collection that are thread-safe, thread-unsafe, and immutable.

University Projects

Computer Networking: IPv4 Forwarding Algorithm & Simulation
Applied course material to simulate IPv4 address forwarding. Utilized CSV-based routing tables to effectively simulate various scenarios within the C++ application.

Security Tools Engineering: Email Spam Filter

Designed and implemented a program for filtering advertising spam emails with different spam filters in C#. Utilized dependency injection and numerous design patterns to enhance modularity and extensibility. Leveraged Google's Safe Browsing API to check for potentially malicious links to avoid sending a request to the potentially malicious site.

Database Design and Implementation: Running Event Database

Applied course material to design and implement a SQL database revolving around running events. Implemented a frontend for querying the SQL database using PHP, HTML, CSS, and JavaScript.

Software Engineering: Seahawk Saver

Leading the development team consisting of five members in designing and developing an application designed for students to effectively manage their finances.