Zachary Shaffer

linkedin.com/z-shaffer | +1 919 208 5590 | zshaffer@protonmail.com | github.com/z-shaffer

"Full Stack Developer at an AI startup with experience leading a project being adopted by industry leading corporations."

WORK EXPERIENCE

ION INNOVATIONS   Boone, North Carolina, USA
Software Engineer   2022 – Present

- Promoted from Junior Developer to lead a small team in developing an automated quality control system's **API**, embedded systems, and user interface with **MVC** and **multithreaded** architecture in **Python**, enhancing performance, threading management, user experience, and hardware safety while under minimal supervision in an **AGILE** environment.
- Overhauled various tools in **C#/.NET/WPF** for the previously mentioned project, such as a high-resolution image viewer and a desktop application, while maintaining the **Linux** servers that host the project's rich cloud ecosystem. These projects have been shipped for adoption by **industry leading** tech and car companies, underscoring their impact and significance.
- Designed a data analysis dashboard using **mySQL** and **PHP** that integrates into our AI microscope's ecosystem, allowing customers to view their samples and data visualizations, facilitating valuable insights based on their individual needs.
- Transformed the company's online presence through a comprehensive website redesign and dashboard implementation, employing **JavaScript**, **Apache**, and **Bootstrap**. These enhancements resulted in a **270% increase** in annual web traffic!

PERSONAL PROJECTS

F3D: Fast and Minimalist 3D viewer [Github]   2024 - Present

- Actively contributing to a large-scale **open-source** project for a lightweight 3D model viewer in **C++**. Contributions include handling reported issues, applying bug fixes, conducting **unit tests**, and implementing new features to improve functionality.

Rust Detector [Link] [.NET] [Spring]   2024 - Present

- Created a **.NET Core** application to monitor Rust job market trends using an automated **Python** web scraper. Implemented data presentation via a **Blazor** application, while practicing valuable skills in **CI/CD** and caching on **Azure**.
- Engineered two **RESTful APIs**, leveraging **C#/ASP.NET Core** and **Java/Spring**, to study variations in architecture, security, and communication handling between the web scraper, frontend, and **Microsoft SQL server**.

AACHub [Link] [Github]   2023 - Present

- Deployed a **React** app with **TypeScript**, built on **Node.js** and **Express**, to **AWS** for an online video game, assisting dozens of players daily to increase profits. This was accomplished through an algorithm analyzing data in real-time on over 150,000 sales combinations stored in **MongoDB**, that offers player insights into revenue with consideration for varying demand levels.

Winter Mini Games [Link] [Github]   2023 - Present

- Released 'Frosty Frenzy,' a diner dash styled time management game using **C#**, showcasing knowledge in game mechanics, clean code principles, and adherence to software architecture patterns for optimal performance and maintainability Developing a new multiplayer sumo-style boxing experience in **Unity** for 2024.

C++ Tool Bundle [Github]   2022 - Present

- Developed a suite of applications in **C** and **C++**, leveraging **GDB** and **Valgrind** for debugging and memory analysis. The suite includes: A pipelined process simulator emulating x86 instruction sets to deepen understanding of processor operations, a cache simulator for exploring performance and optimization, a lightweight Unix-style shell for enhanced understanding of Unix-like operating systems, and various GUI applications built using **QT** to acquire new skills with C++ frameworks.

SKILLS

Languages: C#, C++, Java, JavaScript, PHP, Python, Rust, SQL
Frameworks: ASP.NET Core, Blazor, Bootstrap, Entity Framework Core, .NET Core, React, Spring, SyncFusion, Tkinter, WPF
Tools: Amazon Web Services, Azure, Bash, Docker, Git, Kubernetes, Linux, MySQL, phpMyAdmin, PostgreSQL, Postman, xUnit

EDUCATION

APPALACHIAN STATE UNIVERSITY   Boone, North Carolina, USA
B.S. Computer Science | GPA: 3.80 | Robotics Club Programming Lead   2018 - 2022
Courses primarily in Java and C++ but also R, SQL, Haskell, and Python: databases, systems, data structures/algorithms, cloud computing, artificial intelligence/machine learning, data analysis, technical writing, calculus, physics, and more.