

ANDY FOO

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SKILLS

Programming Languages: Java, Javascript (React & Next.js), Python, C, C++ , C#, VB.NET, HTML/CSS
Technologies and Tools: Bootstrap, Git, Android Studio, Firebase , MySQL, GitLab, Azure DevOps, OpenShift
Soft Skills: Communication, Curiosity, Self-Starter, Troubleshooting, Adaptability

EDUCATION

Iowa State University Ames, IA
Bachelors of Science in Computer Science, GPA : 3.92 Aug 2020 - Expected Grad Dec 2023
Relevant Coursework: Software Development Practices, Design and Analysis of Algorithms, Operating Systems
Honors: Dean's List for 6 consecutive semesters

PROFESSIONAL EXPERIENCE

Fullstack Developer June. 2022 – Present
Iowa State University Ames, IA

- Developed virtual biochemistry software utilizing Typescript, React, and Spring Boot.
- Migrated staging website to Openshift cloud platform and reduced pipeline complexity by 2.5x.
- Refined UI and performed patches to application, improving students' satisfaction rate of application by 80%.
- Replaced professor's plotting tools by designing a custom graph plotting tool using Python Django framework and JavaScript.
- Developed an advanced linear regression module using Scipy and Numpy, allowing researchers to customize dataset boundaries and perform automated fitting for multiple datasets while cutting down data processing times by 6x.
- Added support for secondary-axis plotting using D3.js, allowing for dynamic scaling of graph plots with extreme values, enabling researchers to visualize batches of datasets with higher accuracy.

Software Engineering Intern June. 2022 – May 2023
Iowa Department Of Transportation Ames, IA

- Reconstructed PDF processing module via a **Test-Driven Development (TDD)** approach using ASP.NET and C#.
- Decreased PDF processing time for clients by 2x and reduced memory usage by 50% via PDFSharpCore library.
- Extended PDF's compatibility for larger files, serving 200+ clients the flexibility to upload different source files.
- Performed vigorous unit tests and stress tests on PDF module using Xunit to process 200Mb+ PDF documents.
- Managed traffic sensor data using Microsoft SQL server and developed automatic data migration module for transferring 15000 permits to Oracle SQL Developer database.
- Leveraged Azure DevOps for tracking work items, managing test plans, and code versioning emphasizing on agile methodology.


PROJECTS

Personal Blog  | Next.js, Tailwind CSS, OpenAi API, Vercel Apr.2023

- Developed a minimalist personal blog using Tailwind CSS and Next.js with a mobile-first development approach
- Integrated OpenAi Chat completion API for automatic tag generation, allowing blogs to be tagged automatically before publishing
- Implemented search functionality on client-side rendering of the website, allowing users to filter blog posts based on their inputs
- Deployed application using Vercel platform, integrated Vercel analytics to monitor load times and daily visits for the blog

Pokemon Game (Class project)  | C, C++ , ncurses Aug.2022 - Dec.2022

- Developed a CLI-based Pokemon game with C, ported to C++ in later parts of the semester.
- Implemented OOP programming techniques and refactored code base with emphasis on modularity and readability, facilitating the process of adding new features to the game.
- Integrated heap-based Dijkstra path tracing algorithm coupled with movement synchronization algorithm, allowing enemy players to traverse across the map to reach the user.
- Enhanced map rendering capabilities using ncurses CLI library and optimized in-game performance by rendering maps on the fly

PickLyfe (Class project)  | Java, Android Studio, Volley API, Espresso Jan.2022 - May.2022

Award: Obtained best coder and best manager award for outstanding project development outcome

- Collaborated with a team of 3 to build a turn-based android game that emphasizes on decision making skills
- Constructed core UI layouts and game features, developed real-time chat functionality using websockets
- Streamlined CRUD operations with backend server following REST API conventions using Android Volley Api library.
- Implemented CI/CD pipeline and automated UI testing using Espresso library, achieving 53% test coverage for application