Lance Bergeron

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Experience

Software Developer II   General Atomics - Integrated Intelligence – Charlottesville, VA   March 2024 - Present

- Contributed to the THRESHER platform which tracks and forecasts the positions of global maritime and air entities
- Created a data visualization platform that automated data wrangling and preprocessing for various data sources which created a unified standard for visualizations across the company
- Implemented a multi-tenant authentication protocol for Grafana logs which reduced infrastructure costs, minimized maintenance overhead, and simplified onboarding
- Designed and implemented a Redis cache for imagery models which reduced third-party requests by 50%
- Held and maintained a TS/SCI security clearance

Software Development Engineer   Amazon – Seattle, WA   June 2022 - March 2023

- Contributed to a team that programmatically identifies optimizations to the Amazon Transportation Network
- Reduced the runtime of the team's integration tests from hours to under 10 minutes
- Automated the integration tests in the deployment pipeline, blocking several bugs from production
- Profiled the model and optimized a performance bottleneck, leading to a 15% decrease in the model's runtime

Projects

Flipalara   AWS, Docker, TypeScript, PHP Laravel, Vue.js, TailwindCSS, Redis, Nginx, PostgreSQL   flipalara.com

- Developed a reactive and user-friendly web-app where users can generate flashcards with AI
- Implemented spaced-repetition algorithms to show users their flashcards at the optimal intervals for learning
- Used image recognition to allow users to generate flashcards from images of their notes
- Implemented a blue/green CI/CD script that redeploys the site quickly and with zero downtime

CUDA Newton Fractals   C, C++, CUDA   github.com/lanceberge/Cuda-Newton-Fractals

- Created a CUDA program that performs Newton's Iteration on 1,000,000 values in parallel on a GPU
- Generated fractal images and videos by coloring each element in the matrix based on which root it converged to

elysium   Lisp, Emacs   github.com/lanceberge/elysium

- Created an widely-used Emacs package that automatically merges in requested code changes from LLMs

Skills

Technologies: AWS, PostgreSQL, Kubernetes, Docker, Linux, Git, CI/CD, Redis, Vue.js, Tailwind CSS, PHP Laravel
Languages: Java, C++, TypeScript, JavaScript, Go, Bash, SQL, Python, PHP

Education

Virginia Tech, GPA 3.64 – Magna Cum Laude, Dean's List   May 2022

- Bachelor of Science in Computational Modeling and Data Analytics
- Minor in Computer Science, Minor in Math