JUSTIN LUFT

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Experience

Capstone Developer, College of Charleston *Jan 2025 - May 2025*

- Developed an interactive photo booth for Raspberry Pi, with low-level hardware control in procedural code.
- Led sprint planning and execution in a 5-sprint Scrum cycle, delivering a reliable, production-ready system.
- Deployed and optimized the system, documenting architecture for long-term maintainability.

South Carolina Bill Tracker *Created a robust bill tracking system for South Carolina legislation:*

- Engineered a custom web scraper to fetch legislative data periodically from the official statehouse site.
- Structured data into a normalized Firebase schema to ensure fast querying and reduced redundancy.
- Automated data updates and deployment workflows using GitHub Actions and scheduling.
- Developed a responsive front-end for filtering by bill status, sponsor names, and keywords.

Lightweight C-based Web Server *Built a website from scratch in C that handles GET/POST requests:*

- Parsed raw HTTP requests manually to handle routing without reliance on third-party libraries.
- Constructed valid HTTP responses using C, ensuring full control over memory and buffer use.
- Designed the server with low memory and CPU use in mind for embedded or constrained environments.

Multithreaded Sudoku Solver (C) *Engineered a multithreaded brute-force Sudoku solver:*

- Applied multithreading to parallelize grid evaluations, improving performance.
- Implemented recursive backtracking with pruning techniques to reduce redundant computation paths.

Full-stack Firebase Applications *Designed and developed real-time web apps:*

- Created a responsive UI with Figma that can be translated into production-ready React code.
- Built complete applications with Firebase Auth, Firestore, and Realtime Database syncing across clients.
- Prioritized user experience by optimizing load speed as well as error handling.

Mini Machine Learning Engine (Python) *Created a learning tool with educational visualization:*

- Coded linear regression from scratch with NumPy using batch gradient descent for coefficient tuning.
- Designed matplotlib-based visualizations to show how model parameters evolve during training.

Education

Bachelor of Science – Computer Science, College of Charleston -- May, 2025

- GPA: 3.69 (Cum Laude) | President's List: Fall 2022, Spring 2024
- Software Engineering, Advanced Algorithms, Database Concepts, Programming Concepts, UI Development

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Skills

- Java, Python, C, MIPS, Prolog, R, SQL, My SQL, Firebase, Unity
- Adaptability to unfamiliar languages
- Agile, Scrum, Waterfall
- Data Structures & Algorithms