Seth Campbell

Software Engineer - Provo, Utah

I enjoy learning about the inner workings of computers and computer programs, and I am pursuing a career as a lower level software developer in the computer systems and cybersecurity industries.

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github.com/scamp20

EDUCATION

Computer Science
Brigham Young University
08/2018 - Present, 3.53 GPA *Provo, Utah*

WORK EXPERIENCE

Research Assistant - Software Developer / DevOps Engineer
BYU Family History Technology Lab
05/2022 - Present *Provo, Utah*

- Developed new relativefinder.org Angular frontend for PC and mobile users. Improved the Node.js backend and configured the AWS resources using Terraform.
- Migrated over a million data entries into a new schema/Postgres RDS database using SQL scripts.
- Developing a Websocket server in Rust for Jackbox styled family history games.
- Designed backend data models and algorithms for https://games.fhtl.org/.
- Created extensive README.md documentation for our backend development servers.

Reference: Mark Clement - clement@cs.byu.edu

Head Teaching Assistant - Discrete Structures
BYU Computer Science Department
01/2022 - 12/2023 *Provo, Utah*

- Created relational database datalog programs in C++ and Python, and taught students to do the same through Lexical Analysis, Grammar Parsing, Query Interpreting, and Graph Theory.
- Used Github actions to autograde projects upon submission with makefiles (for C++ projects) and pytest (for python projects).
- Organized and trained other TAs as Head TA.
- Presented class lectures when needed and taught lab sessions regularly.
- Ran a busy help queue for 300+ students each semester.

Reference: Michael Goodrich - mike@cs.byu.edu

SKILLS

Chinese | C | C++ | Wireshark | Ghidra | Networks | Encryption | Linux | Bash | Python | Rust | x86 Assembly | ESP-32 | Machine Learning | Linear Algebra | Differential Equations | Circuits | FPGAs | AWS Web Technologies | Github Workflow | RESTful API | Terraform | Databases

PERSONAL PROJECTS

Handheld Multiplayer Connect 4 (11/2024 - 12/2024)
- Programmed Connect 4 game into an ESP-32 board in C
- Read ESP-32 docs and wrote peripheral drivers for buttons and LCD
- Implemented multiplayer functionality using UART communication

Simulated Annealing Algorithm (04/2023 - 04/2023)
- Implemented and presented a simulated annealing algorithm in Python (with a team) to solve the Traveling Salesman Problem.

Levi-Civita Tensor Torque Calculator (11/2022 - 11/2022)
- Created a torque calculator in C++ to manually calculate torque using a Levi-Civita Tensor.

Game Modding and Feature Expansion (08/2023 - Present)
- Modified source code for the "Super Fighters" web game extracted from an HTTP response in browser development mode, and changed the JavaScript in VSCode.

CERTIFICATES

A+ Computer Maintenance and Repair (05/2017 - 05/2020)

TestOut Security Pro (05/2018 - Present)

ACTIVITIES

Cyber Patriot (08/2015 - 04/2018)
Blue Team Lead

BYU Chinese Club (08/2021 - 04/2022)

BYU Handball Club (08/2023 - Present)
President