

# Tyler Fitzwater

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## Technical Skills

### Programming Languages

- Java, Python, C++, JavaScript, Rust, Ruby, Kotlin, C#, Bash, OCaml, C, LUA, R

### Platforms/Technologies

- AWS (EC2, CloudFormation, S3, Lambda, etc.), VirtualBox, Git, SQLite, MongoDB, Postman, Apache, Linux, Firebase, Android, Node.js, React.js, Arduino, .NET, WPF

## Experience

### Software Engineer Intern | Amazon Web Services (AWS)

May 2022 – August 2022

- Automated a previously manual Mac VirtualBox image creation process for efficient service instance updates.
- Completed Bash and Python scripts to automate installation of Mac OS and service dependencies on VirtualBox images for deployment on EC2 for our service Device Farm.
- Ensured optimal performance and APPSEC compliance through extensive testing.
- Gained proficiency in Mac OS and virtualization technologies like VirtualBox and AWS services.
- Communicated effectively to deliver a minimum viable product before internship end.

## Projects

### SoftMax Regression and Neural Networks

December 2022

- Implemented both SoftMax regression and fully connected neural network without any external ML libraries.
- Applied both models to predict classifications in the MNIST digit dataset.
- Plotted various graphs showing the cost accuracy as certain hyperparameters changed

### Movie Search Engine (React.js, Express.js)

June 2021

- Streamlined a user-friendly movie search engine web application.
- Optimized API queries to Open Movie Database API for getting results around user's query.
- Features pagination, filtering, and images of the movie posters alongside each result.

### Linux Shell Program (C)

June 2021

- Developed a Linux shell program that can execute complex commands.
- Supports operators such as AND, OR, Pipe, Subshell, and more.
- Directly interacts with the operating system to fork processes efficiently.

### Beat Saber Graph Overlay (HTML, CSS, JS)

January 2020

- Created a web-based overlay for streaming programs to be ran alongside the game Beat Saber.
- Graphs score percent possible, in real-time, as player progresses through each play.

### Wikipedia Search Discord Bot (Python, discord.py)

August 2019

- Developed a service that allows a user to search any article on Wikipedia via Discord chat.
- Designed using custom discord embeds for displaying article information.

## Education

### B.S. Computer Science | University of Maryland

August 2020 – May 2023

- Major: Computer Science
- Minor: Japanese