Royce Mathew

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Skills

Languages
Lua 4 years • **Python** 3 years • **Java** 2 years • **JavaScript** 1 year • **C++** 1 year • **Rust** 1 year • **C#** • **C** • **Assembly**

Technologies
Bash • Docker • Firebase • Flask • Google Cloud • Git • LevelDB • Linux • Numpy • Pandas • Postgres • Raspberry Pi • React • REST • SASS • Selenium • SSH • Tensorflow • UML • Vercel

Experience

Cloud Developer • RBC Royal Bank of Canada   *January 2024 - Present*

- Developed and managed an internal application that handles SQL database read and write operations, using **Next.js** and **TypeScript** for the front-end and **Flask** for the back-end.

- Implemented a **token-based authentication system** that allows users to securely log in to the website with a unique token that is valid for any day.

- Enabled the website to scale up and down according to the demand and load, using features such as **load balancing**, auto-scaling, and **containerization**.

- Designed the website to host multiple applications with different functionalities and requirements, using a microservices architecture and a **RESTful** API.

Teaching Assistant • Ontario Tech University   *Sep 2023 - Dec 2023*

- Offered individualized support to students through office hours, addressing their questions and concerns related to course content, assignments, and projects.

- Supported the integration of new technologies and tools into the course, such as **cloud computing** platforms and development environments, to enhance the learning experience.

- Mentored and guided students in their project work, helping them develop practical coding skills and complete software projects that demonstrate their understanding of course concepts.

Technical Operations Intern • Modern Deploy Technology   *May 2023 - Sep 2023*

- Designed and developed a robust web application leveraging **cloud storage**, empowering users to effortlessly upload, manage, and access documentation securely.

- Implemented a highly secure **authentication system**, enabling smooth login functionality for both users and administrators.

- Created an intricate and **responsive** user interface using **Svelte** and **TypeScript**, ensuring an intuitive and **dynamic user experience**.

- Implemented Supabase, a **Postgres** database, along with **Vercel**, as a key component of the project, showcasing efficient **data management** and seamless integration.

Projects

Research Paper on Neural Networks
Python • Jupyter Notebook • NEAT

- Research Paper on utilizing **Neural Networks** to predict the foreign exchange market. Study delves into the application of genetic algorithms such as NEAT (NeuroEvolution of Augmenting Topologies) to generate accurate market predictions.

Automated Bot for VOIP Service: Discord
Python • Discord.py • Requests • LevelDB

- Advanced Discord bot which utilizes **Databases**, **Data Scraping**, **Multithreading** to deliver fast and accurate information to users. Accesses a wide range of data including Covid-19 statistics, daily facts and time zone conversions.
- Features a **captcha verification system** for added security. Powered by Google's LevelDB key-value database for lightning-fast data storage and retrieval.

EasyConnect
Python • Flask • React • REST • Selenium • Sockets

- Program to effortlessly connect to your desktop from your mobile device and streamline your daily tasks with our **Desktop Automation** application. Designed to enhance efficiency and assist users new to technology in mastering their desktop experience.

Open Source API Wrapper
Rust • Asynchronous • Github Actions

- Asynchronous Rust API Wrapper for Roblox endpoints - **rust library** that prioritizes memory safety and sends requests to web endpoints, while also allowing for cookie-based authorization.
- The wrapper seamlessly integrates users, groups, games and payment services into Rust-compatible formats with **deserialization** for easy access and manipulation. This wrapper was originally written to be implemented into my backend server running on RaspberryPi.

Education

Ontario Tech University
Sep 2021 - Present

Bachelors Of Computer Science

- Dean's Honors List 2022   •   President's Honors List 2022
- Data Structures and Algorithms • Computer Architecture • Scientific Data Analysis • Software Design and Analysis • Computational Science • Software Systems Development and Integration