Guanran Tai

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WORK EXPERIENCE

Student Softwware Developer
Motorola Solutions [04/07/2022 – Current]

City: Glostrup
Country: Denmark

Using Rust to migrate the old starter of zone controller system module (C/C++).
Use bindgen library to import the C/C++ function and variable to call in Rust.
Use c-bindgen library to export the Rust function for C/C++ function to call.
Familiar with using share memory, socket file in Linux system programming.
Using systemd service to spilt the old binary into multiple microservice.

EDUCATION AND TRAINING

Master of Computer Science
University of Copenhagen [31/08/2021 – Current]

Bachelor of Computer Science and Technology
University of Electronic Science and Technology of China [31/08/2017 – 29/06/2021]

PROJECTS

A load balancer based on Rust

- Use the Tokio library for making the request and response function asynchronously to gain the better performance.
- Implement active HTTP health checks for the load balancer.
- By using the fixed time window to implement the rate limiting feature.

A STL-compliant HashMap

- Implementing an STL-compliant HashMap based on a CS106L course project.
- Make a const-interface for the HashMap class, and design and implemented the special member functions for the HashMap function to make it STL-compliant.
- Using the Unit test to test its correctness. And by running the test of the benchmark, the HashMap has better performance than the std::unordered_map.

A C++-based file compression and backup system

- A C++-based file compression and backup system with functions for compressing, decompressing, packing and unpacking files and folders. The function for compressing and decompressing is based on the Huffman Coding.
- GUI implementation based on Qt.
- Implemented decryption, encryption and linking to cloud drives for regular backups.

A Go Online Judgement Platform

- A Golang language learning system that enables teachers and administrators to manage, assign homework, and students to submit assignments and assessment results on the system.
- The frontend is based on React (a JavaScript frontend framework), the backend is based on Gin(a go backend framework) and the database is based on MySQL.
- Asynchronous return of assessment results based on web socket technology.