Mateus Alves da Rocha

Brasília, Brazil

 \blacksquare mateus.alves.rch@gmail.com \blacksquare LinkedIn \clubsuit Website \bigcirc Github

Skills

Languages: C/C++, Python, Bash Monitoring & Analytics: Grafana, Prometheus Version Control: Git MCUs: Raspberry Pi, MSP430, ESP32

Work Experience

Software Developer, Sigma Software Group - Brazil

Main skills: C++, Python, Bazel, GTest, Protobuf, Kubernetes, AWS (EC2, EKS, S3, ECR), Aerospike, Grafana, Prometheus, Git, CI/CD (Jenkins)

Software Engineer, Onboard Mobility - Brazil

Main skills: C++, C, GTest, CMake, Python, GDB, MQTT, Multithread, Linux, Git

- Enhanced search efficiency in a denylist algorithm by upgrading from a linear to a constant time algorithm using Singleton Design Pattern and Hash table algorithms in C++. Validated performance improvements through testing with profiling tools.
- Proposed and implemented unit testing for C++ codebases using the Google Test framework. Ensured adherence to SOLID principles to enable seamless mocking for thorough testing, thereby enhancing code reliability and maintainability.

Embedded Systems Test Engineer, APTIV - Poland

Main skills: CAPL language, Python, DOORs, Vector CANoe, Plastic, Jenkins.

- Developed a web application using Node.js and Python that integrated with Jira API, providing a faster form to create QA test tickets for my manager and external 15 teams within the company.
- Implemented a Jenkins server on my test bench and created a pipeline in Python that automated repetitive tasks This automation saved time, improved efficiency, and reduced errors, which was recognized during the annual performance review with my manager.

Embedded Software Engineer, Onboard Mobility - Brazil

Main skills: C++, C, Python, GDB, MQTT, HTTP, Multithread, Linux, Git, Bitbucket, Raspberry Pi, iMX8

- Implemented a console application in C++ and MQTT to create remote access to the devices, reducing costs and increasing efficiency.
- Implemented an optimized solution by the use of C++ instead of Python for MQTT communication. Also, improved the system structure making use of cron-jobs, resulting in a 70% reduction in resource consumption and consistent performance, as verified by tools such as HTOP.
- Developed an efficient MQTT system to replace HTTP requests for sending encrypted payloads from the tickets processed by the device to the AWS backend, resulting in minimized data packets and reduced network bandwidth in communication.

Hardware/Firmware development Engineer, E-lastic - Brazil

Main skills: C++, C, ESP32/ESP8266, MSP430, Attiny84, Arduino, Kicad, Funsion360

Education

Bachelor of Electronics Engineering

University of Brasilia, DF - Brazil

International Exchange program by Ciências Sem Fronteiras Wayne State University, MI. - USA. University of California, LA. - USA.

Protocols: MQTT, HTTP, Data Serialization (e.g., Protobuf)
Operating Systems: Unix/Linux
Build & Testing: Bazel, GTest, CMake, GDB, Jenkins
Cloud & Platforms: AWS (EC2, EKS, S3, ECR), Kubernetes

Mar. 2022 – July 2023.

Oct. 2019 - Mar. 2022

Aug. 2024 – Curr.

Aug. 2023 - Aug. 2024.

Dec. 2018.

June 2018 - Oct. 2019