Brandon Duval Benn 班伯恩

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Skills

Programming: Ruby, Python, Javascript, Go, Bash, SQL
Frameworks: Ruby on Rails, Nodejs, VueJS, Flask
Tooling: Git, Linux, POSIX, MySQL, Postgres, Redis, Elasticsearch, Docker, Kubernetes
Languages: English (Native), Chinese (Proficient)

Experience

Software Engineer, Faria Education Group – Taipei, Taiwan   2022 – Present
- Develop and maintain data-centric web applications
- Write, optimize and analyze in-application database queries
- Implemented business logic and ETL Solutions for sales dashboards
- Implemented internal systems and customer facing UIs

Software Engineer, Codegiant – Taipei, Taiwan   2020 – 2021
- Implemented secret store for API tokens by using column level encryption in DB
- Write, optimize and analyze in-application database queries
- Contributed to serverless function deploy and uptime monitoring service in containers using Docker.
- Implemented GraphQL and REST endpoints deployed in microservices on Kubernetes.

Research and Teaching Assistant, National Tsing Hua University – Hsinchu, Taiwan   2020 – 2022
- **EE231001 Introduction to Programming:** tutored and graded C++ programming assignments
- **COM533500 Network Security:** tutored and graded cryptography and networking concepts
- Implemented database query layer on HyperLedger Fabric database to optimize blockchain query performance.

Projects

Immutable Records (https://github.com/BrandonBenn/immutable-records)
- Implements tamper proof documents by using one-way hash in a merkle-tree.
- Given a directory of files, if any of the files in the directory was tampered with, the verification will give a warning.

Uptime Monitor (https://github.com/BrandonBenn/uptime)
- Implements HTTP resource uptime monitor by asynchronous background tasks that are taken from a queue, then stores results in a database.
- Implements dashboard Web UI for CRUD operations on HTTP resources to be monitored.

Privacy in IoT Supply Chain Systems using a Consortium Ring Signature Agreement
- Proposes a method for sending sensory information from IoT devices securely without revealing location.
- Implements data integrity and authenticity while preserving spatial privacy using ring signatures.

Lightweight Virtual Machine Optimization
- Increase QEMU file data buffer size for faster access to storage bandwidth.
- Enable readahead hint: Use fadvise with a sequential attribute to optimize reading from the snapshot.
- Optimize RAM state layout: Save contiguous non-zero RAM pages larger than 500 KiB together to avoid memory copy overhead during loading.

Education

National Tsing Hua University, Hsinchu – Msc Electrical, Electronics and Communications Engineering   2020 - 2022
National Tsing Hua University, Hsinchu – Bsc   Computer Science   2015 - 2019
National Taiwan Normal University, Taipei – Chinese Language Enrichment Program   2014 - 2015