CHUNG YI KAO

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SUMMARY

A technophile with the passion of using computer science knowledge to improve the quality of work and life.

SKILL

- Golang(current), Java, Python
- Spring Framework, Apache Camel(EIP), PostgreSQL, E.L.K, Docker, Jenkin
- GDB, JDB, JVM
- Simulator(EcoSim), Interpreter(PHP.js), VM(JVM.py).

EXPERIENCE

Shopee   Feb. 2021 - Current
Tech Lead   Singapore

- **Performance & SLO Solution**
  1. Lead **SLO Platform Project** to establish company SLOs measurement(90% Critical Services)
  2. Design and Lead an **Profiling Solution** for live troubleshooting and performance optimization
  3. Mentoring engineers

Senior Backend Engineer

- **Maintain and Sunset Monolithic Shopee Core Service (Conn Server, Coreserver)**
  1. Introduce multiple solution such as **Proxy Protocol** for traffic monitoring, and coordinate with each domain core service PIC to migrate the traffic smoothly.
  2. Company-wide project feature development such as (Shadow Traffic, Split by Market)
- **Maintain TCC middleware**
  1. Company-wide project feature development such as (Shadow Traffic, Split by Market)
  2. Research Industrial features and development

Rakuten   Aug. 2018 - Feb. 2021
Senior Java Backend Engineer   Tokyo Japan

- **resolve legacy DB issue**:
  1. Use profiler to optimize DB query and index usage. 5s to 500ms(90%)

- **warehouse migration project**:
  1. Cross team cooperative project.
  2. Propose new design for the future migration.
  3. Refactor system source code.

- **Distribute tracing**
  1. Introducing spring cloud sleuth to micro-service for system analysis.

- **Development Environment Optimization**
  - **PHP dev-cache extension**: Develop a PHP cache extension to monitor source files, and generate hash code leverage to use the browser's cache(Etag) mechanism. 4s to 200ms(95%)
  - **Dockerize development environment** increase development efficiency and reduce the on board time.
  - **Pipeline enhancement** Parallelize the pipeline build
  - **Mock API**: Use Nginx's cache mechanism to cache the upstream server's responses. 3s to 150ms(95%)

- **Enterprise Integration Patterns**
  Apache Camel, ActivMQ
  Spring framework, GraphQL, ELK, kafka, Srping Batch, message driven design.

- **Domain Driven Design**
  Distributed Transaction: Saga, TCC, 2PC

National Rescue Command Center (Military Service)   Nov. 2016 - Nov 2017
Service Developer   Yulin, Taiwan

Mstar Semiconductor   Jan. 2016 - Sept. 2016
Senior Software Engineer (Research alternative service)   Hsinchu, Taiwan

- Cooperate with Amazon software team in smart TV project)
- Developed Android system stack for smart TV (Binder, service)
- Implemented electronic program guide application.
- Implemented an automatic tool for multi-language translation(Improved developing efficiency: 5hs to 1s)
- Implemented the logger.(FileBeat)
- UML code injection.(Runtime sequence diagram for debugging)

HONORS AND AWARDS

- **IEEE Conference Paper** in VLSI-DAT, *EcoSim: Sensor-Node Simulator*   2019
- **Qualcomm Award** in MobileHeros, *Book Finder*   2012
- **Excellent Work** in ICT Innovative Services, *Touch Projector*   2012

EDUCATION

Master of Computer Science, National Tsing Hua University, Taiwan.   Sept. 2015
Thesis: EcoSim: A Smartphone-Based Sensor-Node Simulator with Native Sensor and Protocol-Stack Emulation

PROJECT

- EcoSim: A Smartphone-Based Sensor-Node Simulator with Native Sensor and Protocol-Stack Emulation
- *PHP.js*
- *JVM.py*
- Using Machine Learning to hack CAPTCHA
- Voice Recognition and Correction (ED algorithm)
- Smart Leave System (Alternative Military Service)(API server, AWS, oAuth2)
- Touch projector
- Book Finder (Indoor location service of library)
- Gesture recognition with IoT platform based on triaxial acceleration