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

- Java, Python, JavaScript, PHP
- Laravel, Spring, PostgreSQL, Tensorflow, E.L.K, Docker, Vagrant
- GDB, Xdebug, Valgrind, Web Cache, JVM, Embedded System
- Simulator(EcoSim), Interpreter(PHP.js), VM(JVM.py).

EXPERIENCE

Rakuten Aug. 2018 - Current
Service Application Engineer Tokyo Japan

- **Production Environment Enhancement**

    - **Infra tracing ID**: Customize Session-based http header(Tracing ID) to trace the service clusters. Benefit to 1.Improve online debugging and performance measurement. 2.Improve BU's analysis and strategy plans by tracking user behavior.

    - **Migrate service**: Migrate to Laravel and Spring framework(PHP JAVA).

    - **Code Refactoring** Use profiler to refactor the source code

- **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%)

    - **Mock API**: Use Nginx's cache mechanism to cache the upstream server's responses. 3s to 150ms(95%)

Mandatory Service Sept. 2016 - July 2017
Web Developer Yulin, Taiwan

- **Design and experiment the voice-typing system** integrated on an emergency command system. (100s to 20s)

- **Design a hacking CAPTCHA program** to verify the security issue.

- **Design and implement a human resource assistant ERP system and login App.**(reduce daily works from 3 days to 1 day) This is SPA client side render smart leave system, I use Redux.js and React.js to implement. Express.js to implement backend system and PostgreSQL to store Data. I also develop an interesting UX experience call cell as stamp. It uses the QRCode as a method to identify personal ID(oAuth2) and make the usage of the system easier and more intuitive.

Mstar Semiconductor Jan. 2016 - Sept. 2016
Senior Software Engineer 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)

Industrial Technology Research Institute July 2013 - Sept. 2015
Fullstack Development Engineer Hsinchu, Taiwan
Smart Insulating Container with Anti-Theft Features by M2M Tracking in Proc. 2014 IEEE (iThings 2014)

- Implemented iOS monitor application, logging system, backend system for a cold-chain logistics system.
- Recognition algorithm for anti-theft.

KerjaDulu Nov. 2014 - July 2015
Android Development Engineer Taipei, Taiwan

- KerjaDulu Human Resource App: KerjaDulu is a human resource app which targets Indonesia labor market.
- Native android framework to build an android app.
- Node.js and PostgreSQL to build the backend system.
- E.L.K: Data Visualization.

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