Uyo Ko

+818043399496 • ✉ sigefriedhyy@gmail.com
https://www.linkedin.com/in/ko-uyo-46360092/
https://github.com/sigefried

Work Experience

Indeed **Tokyo Japan**
Software Engineer *November 2021–Present*

- Worked in candidate matching system backend team (team of approx. 12).
- Designed and developed candidate recommendation system for employer in 8 different countries.
  - Worked on the inference server to improve the scalability by supporting 3x numbers of candidates from the storage perspective.
  - Worked on the job feature service to improve the stability of the service and make it scale to support 14x more QPS.

Google **Munich German**
Software Engineer *August 2020–November 2021*

- Worked in Munich Android Auto Development team (team of approx. 8).
- Designed and developed vehicle-to-phone connectivity solution.
  - Built next generation vehicle-to-phone connectivity system software.
  - Built next generation projecting solution for android phone.

Goldman Sachs **Tokyo Japan**
Software Engineer, Associate *February 2018–August 2020*

- Worked in the Equity Engineering Group (team of approx. 8).
- Improved system latency and scalability.
- Main projects:
  - Built key components for next generation sequencer based ultra-low latency trading platform.
  - Worked as an SRE to provide L3 support for electronic trading platform.

Sony **Tokyo Japan**
Linux system R&D Engineer *April 2016–February 2018*

- Worked in the Base System R&D Department, Linux kernel R&D Section (team of approx. 6).
- Held a team member position at the AI/Robotics Business Unit, System Software Development Section (team of approx. 20).
- Performed parallel work on two main projects
  - Designed and developed a secure application framework of embedded Linux for next generation IoT devices and robotics.
  - Linux kernel/driver development for both current and next-generation embedded system platform.

Education

The University of Tokyo **Tokyo Japan**
M.S. in information and communication engineering *April 2014–March 2016*
Graduate School of Information Science and Technology

Dong Hua University **Shanghai China**
B.Eng. in electrical engineering and automation *September 2009–July 2013*
Department of Electrical Engineering

Selected Projects

Candidate matching system backend development. **Java, Kotlin**
Candidate matching system backend development which support 8 countries. *November 2021–Present*
Techniques: Performance analysis and distributed system development.

– Integrated the inference server with amazon dynamoDb as permanent backend storage. Increased the supported candidate count by 3x from the storage perspective.

– Did performance analysis on the job feature service. Applied rate limiter and multi-layer caching resolve the performance bottleneck and support 14x more traffic volume.

Android Auto and AAOS software development **C/C++,Java**

Next-generation phone to vehicle connectivity solution. *August 2020–November 2021*

Techniques: Android development, performance analysis, system service development.

– Designed and implemented the next generation connectivity system software which provided a unified phone to vehicle communication layer. It manages the USB, Wi-Fi, Bluetooth(RFComm, BLE) as underline transports and makes low level connection details agnostic to the application.
– Design and implement an application level projecting solution for phone to vehicle projection.

Electronic trading platform development **Java,C/C++,Slang,Python**

Next-generation ultra-low latency trading platform. *February 2018–July 2020*

Techniques: Performance analysis, algorithm design and implementation and distributed system development

– Designed and implemented a next generation sequencer based ultra-low latency electrical trading platform, which provided less than 150us end to end latency for synthetic market access.
– Provided L3 support for the platform.

Linux kernel and system security software development. **C/C++,Python,Golang**

Linux Kernel and Security Software Development for next-generation platform. *April 2016–February 2018*

Techniques: Embedded system development, Linux kernel development and Containerization

– Responsible for Linux kernel and driver development for next generation platform.
– Reduced the kernel crash rate by around 30% and reduced the kernel boot time by around 40%.
– Designed and implemented containerization software for embedded Linux platform that has only limited resources.
– Coordinated container software work with other system middleware.

Height-Aided PNS **C/C++,Python,Java**

A highly accurate pedestrian navigation system for urban canyon environment *April 2014–March 2016*

Techniques: Optimization, Self-Localization, GNSS, Wi-Fi Localization and Android Programming

– Designed, implemented, and evaluated a height aided GNSS algorithm for pedestrian in urban environment under the supervision of a senior researcher and professor. This method improved the mean error of GNSS localization from 17 meters to 12 meters in an urban canyon.
– Integrated the height aided GNSS with PDR and Wi-Fi localization system. The integrated pedestrian navigation system could achieve around 6.5 meters mean error in urban canyon.
– This project was my master's thesis. The output of this project was sold to a well-known company.

Skills

- Algorithm design, analysis and implementation.
- Distributed system design, implementation.
- Linux kernel development, system software development, embedded platform development.
- Linux system administration.
- Android system development, application development.
- In-depth experience and knowledge of linux security mechanism: discretionary access control, capabilities, namespace, seccomp, cgroups.
- In-depth experience and knowledge of container software: runC and Docker.
- In-depth experience and knowledge of networking stack development.
- In-depth experience and knowledge of open source softwares: Spring, Kafka, Elastic Search, Hadoop, Spark.
- Good experience with using AWS and Google Cloud.
- Programming languages: C/C++, Java, Kotlin, Python, Assembly, Golang, Ruby/Rails.
- Languages: Chinese(Native), English(Fluent), Japanese(Fluent), German(Beginner)

Publications

Y. HUANG, L.-T. Hsu, Y. Gu, and S. KAMIJO, "Gnss correction using altitude map and its integration with pedestrian dead reckoning," *IEICE Transactions on Fundamentals of Electronics, Communications and*

Computer Sciences, vol. E101.A, pp. 1245–1256, 08 2018.

Y. Huang, L.-T. Hsu, Y. Gu, H. Wang, and S. Kamijo, "Database Calibration for Outdoor Wi-Fi Positioning System," *IEICE TRANSACTIONS on Fundamentals of Electronics, Communications and Computer Sciences*, vol. 99, no. 9, pp. 1683–1690, 2016.

L.-T. Hsu, Y. Gu, Y. Huang, and S. Kamijo, "Urban pedestrian navigation using smartphone-based dead reckoning and 3-D map-aided GNSS," *IEEE Sensors Journal*, vol. 16, no. 5, pp. 1281–1293, 2016.

J. C. Y.Y Huang, "vflipnum: A Local Search with Variable Flipping Frequency Heuristics for SAT," *Proceedings of SAT Competition 2013 : Solver and Benchmark Descriptions*, July 2013.