# Uyo(Yuyang) Ko(Huang)

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## Work Experience

Seeking full time senior software engineer position.

## Work Experience

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

- Work in the backend team for the candidate matching system (team of approx. 12).
- Designed and developed the candidate recommendation system for employer, supporting 8 different countries.
  - Worked on the inference server to improve the scalability by supporting 3x the 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 traffic volume.

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

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

**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 a next generation sequencer based ultra-low latency trading platform.
  - Worked as an site reliability engineer to provide L3 support for the electronic trading platform.

**Sony** **Tokyo Japan**
*Linux System Research and Development 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 for embedding Linux in next-generation Internet of Things devices and robots.
  - Linux kernel/driver development for both current and next-generation embedded system platform.

## Selected Projects

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

– Integrated the inference server with Amazon DynamoDB as permanent backend storage which 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 which resolved the performance bottleneck and supported 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 next generation connectivity system software which provided a unified phone to vehicle communication layer. This software manages USB, Wi-Fi and Bluetooth(RFComm, BLE) as underline transports and makes low level connection details agnostic to the application used.
– 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 150 micro second 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 with limited resources.
– Coordinated container software functioning with other system middleware.

**Height-Aided PNS** **C/C++,Python,Java**
*Development of highly accurate pedestrian navigation system for urban canyon environmentApril 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 navigation in an urban environment under the supervision of a senior researcher and professor. This method reduced the mean error in 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 accuracy with around 6.5 meters mean error in the 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.
- Android 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 software: Spring, Kafka, Elastic Search, Hadoop, Spark.
- Experience 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)

## 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