Hangfan Liu

Linkedin: https://www.linkedin.com/in/hangfan-liu-5215601b3/
Github: https://github.com/liuhangfan

Email : liuhangfan27@gmail.com
Mobile : +1-425-246-7799

Skills Summary

- **Skills**: Java, Golang, Python, Scala, C++
- **Technologies**: Kafka, Redis, MySQL, HBase, MongoDB, S3, Flink, RESTful-API, crawler, Spring boot, gRPC, ProtoBuf
- **Tools**: Git, AWS, JIRA, Postman, Linux, Docker, Jenkins, Ansible, Shell

Education

- **Loyola Marymount University** — Los Angeles, CA
  Masters of Computer Science — *Aug 2022 - Jun 2024*
- **Technical University of Kaiserslautern** — Kaiserslautern, Germany
  Bachelor of Computer Science — *Sep 2016 - Sep 2020*

Professional Experience

- **Software Engineer** — Aug 2021 - Aug 2022
  Shopee — *China*
  - **Crawler**: Developed end-to-end distributed crawler system using ***Go***. The system updates at least *500M* weekly records. *Three* teams benefit from it
  - **Database**: Developed storage layers using ***MySQL, HBase, S3***. Refactored storage layers increased *50%* read/write throughput, and decreased *20%* storage cost
  - **APIs**: Designed and developed more than *20 APIs* using ***gRPC*** and ***RESTful***. Improved system performance and user experience
  - **Pipeline**: Developed the deduplication module using ***Redis***. Increased performance by over *25%*
  - **Messaging**: Applied ***Kafka*** to implement asynchronous messaging in our micro-services. Improved system throughput. Increased *30%* serialization performance by replacing JSON with ***ProtoBuf***
  - **DevOps**: Built a *CI/CD* pipeline using ***docker*** containers and ***Jenkins***. Significantly improved delivery efficiency.
- **Internship Software Engineer** — Dec 2020 - Apr 2021
  DiDi — *China*
  - **Big-data**: Developed end-to-end *ETL* (Extract-Transform-Load) for real-time trajectory raw data, which involves data cleaning, computing, formatting, etc. Applied big data tech: ***Kafka, Flink, Redis, HBase***. Massive amounts of data (*700M*/week) are delivered to the machine learning team
  - **Database**: Developed storage layer Designed ***HBase*** row keys to reducing hot-spotting data. Improved database read and write performance
  - **Web**: Developed web application using ***SpringBoot*** framework in ***Scala***. Developed various ***RESTful APIs***, including data *CRUD* and *user management*. Improved user experience and four teams benefit from it
- **Internship Computer Vision Engineer** — Feb 2020 - May 2020
  DFKI — *Germany*
  - **Deep Learning**: Researched and developed object detection in AR. Designed conventional network architecture.
  - **Dataset**: Applied **Unity3D** to simulate 10M artificial training data images

Selected Projects

- **Tiny URL service**:
  - *(Project Owner)* Developing a full-stack tiny URL service that shortens unwieldy links into more manageable URLs
  - The frontend is developed using ***React, JS, HTML, CSS***
  - The backend is developed using ***Java, Spring Cloud, Spring Boot, Redis, MongoDB***
- **Course Project: Vehicle Routing Problem**:
  - Optimized vehicle routing problem in ***Python***. The objective function is the minimum total transport distance
  - Applied genetic algorithms to obtain a delivery plan approaching the optimal based on the principle of survival of the fittest
- **Course Project: Online Card Game**:
  - participated in the development of a multiplayer online card game in ***JAVA***
  - developed chat module using the observer-subscriber pattern and developed the data storage in ***My-SQL***

Publication

- Liu, Hangfan, Yongzhi Su, Jason Rambach, Alain Pagani, and Didier Stricker. "Tga: Two-level group attention for assembly state detection." In 2020 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), pp. 258-263. IEEE, 2020. https://ieeexplore.ieee.org/document/9288457