

Hangfan Liu

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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

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

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 achieved *50%* read/write throughput increases and *20%* storage cost decreases
 - **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 micro-services. 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>