

Hangfan Liu

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SKILLS

- **Languages:** Java, Golang, Python, Scala, Java Script, React, CSS, HTML
- **Technologies:** Spring Boot, Kafka, Redis, MySQL, HBase, MongoDB, AWS S3, Flink, RESTful-API, crawler, gRPC, ProtoBuf
- **Tools:** Git, AWS, JIRA, Postman, Linux, Docker, Jenkins, Ansible, Shell

EDUCATION

- **Loyola Marymount University** Los Angeles, CA, USA
Masters of Computer Science, GPA: 4.0/4.0 Aug 2022 - May 2024 (expected)
- **Technical University of Kaiserslautern** Kaiserslautern, Germany
Bachelor of Computer Science Sep 2016 - Sep 2020

WORK EXPERIENCE

- **Software Engineer Intern** May 2023 - Present
SONY-PlayStation San Diego, CA
 - **Payment Gateways Development:** Contributed to the development of the payment gateway framework and implementation of payment gateways with multiple vendors like Chase and Venmo.
 - **Maven Archetype:** Led the design and development of a Maven-based archetype aimed at automating the gateway creation process. This initiative significantly reduced the cost from 1 day to 2 minutes.
 - **RESTful APIs Integration:** Designed and implemented efficient **RESTful** APIs, facilitating smooth integration with various payment processors, banks, and third-party services.
- **Software Engineer** Aug 2021 - Aug 2022
SHOPEE Pte. Ltd. China
 - **Distributed Crawler System:** Contributed to the development of end-to-end distributed crawler system using **Golang**. The system efficiently updates over *500 million* records per week, providing valuable competitive data for data science and operations teams.
 - **Distributed Storage Layers:** Designed and optimized distributed storage layers utilizing **MySQL**, **HBase**, and **S3**. The refactored storage layer increased read/write throughput by *50%* and reduced storage costs by *20%*. Successfully managed over *1 billion* pieces of e-commerce data, images, and videos.
 - **API Development:** Developed and deployed more than *20 APIs* using **gRPC** and **RESTful** standards. These APIs played a pivotal role in enhancing system performance and improving the overall user experience.
- **Software Engineer Intern** Dec 2020 - Apr 2021
DIDI Technology Co. China
 - **Big-data:** Developed end-to-end **ETL** (Extract-Transform-Load) for real-time trajectory raw data, involving 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 using **HBase**, and designed row keys to reducing hot-spotting data. Enhanced read/write performance
 - **Web:** Developed web application using **SpringBoot** framework in **Scala**. Developed *10 RESTful APIs*, including data **CRUD** and *user management*. Improved user experience and four teams benefit from it
- **Computer Vision Engineer Intern** Feb 2020 - May 2020
DFKI Institute Germany
 - **Deep Learning:** Researched and developed object detection in AR. Designed a novel conventional neural network architecture.
 - **Dataset:** Applied **Unity3D** to generate 10M artificial training data images
 - **Publication:** Hangfan, Yongzhi *et al.* "Tga: Two-level group attention for assembly state detection." In 2020 IEEE International Symposium on Mixed and Augmented Reality Adjunct. <https://ieeexplore.ieee.org/document/9288457>

SELECTED PROJECTS

- **Tiny URL service:** <https://github.com/liuhangfan/tinytiny-url>
 - (Project Owner) Developing a full-stack tiny URL service that shortens unwieldy links into more manageable URLs
 - The frontend is developed using **React**, **JS**, **CSS**. The backend is developed using **Java**, **Spring Boot**, **Redis**, **MongoDB**
- **Deep Learning in Traffic Scene:** <https://github.com/liuhangfan/object-detection-in-traffic>
 - (Project Owner) Implemented a novel deep learning model for Object Detection. Preprocessed dataset, which contains 14k images. Trained neural network model and visualized our test results. Our model achieved higher accuracy than baseline model
- **Fitness Tutorial website:** <https://github.com/liuhangfan/fitness-app>
 - (Project Owner) Developed a fitness tutorial application based on React.js, RESTful API, JAVA, SpringBoot, and MongoDB
 - Access via this link <https://url.21tiny.com/fitness>
- **Personal Website:** <https://github.com/liuhangfan/react-resume>
 - (Project Owner) Developed a personal website based on open-source code. Extended with new features using React framework
 - Access via this link <https://www.hangfan.link/>