

Yiding Chang

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EDUCATION

Carnegie Mellon University, Information Networking Institute Sep 2022 - Dec 2023

Master of Science in Information Networking

- **Courses:** Cloud Computing, Introduction to Computer Systems, Principles of Software Construction

Shanghai Jiao Tong University, U of Mich - Shanghai Jiao Tong University Joint Institute

GPA: 3.76/4.00

Bachelor of Engineering in Electronic and Computer Engineering

Sep 2018 - Aug 2022

- **Minors:** Minor in Computer Science, Minor in Data Science
- **Publication:** *Affinitive Diversity-Aware Task Allocation in Spatial Crowdsourcing*, second author, at the 2020 IEEE International Conference of Web Services (IEEE ICWS 2020)

SKILLS

Languages: C, C++, Python, Java, SQL, TypeScript, VerilogHDL.

Tools: Git, Bash, Kubernetes, AWS, Microsoft Azure, Helm, Hadoop, MapReduce, MATLAB.

WORK EXPERIENCE

Intel Asia-Pacific Research & Development Ltd.

Shanghai

Accelerated Computing Systems and Graphics Group Intern

Mar 2021 - Sep 2021 & Feb 2022 - July 2022

- Reformed the old ssh-based distributed system set-up with Kubernetes, and coordinated the communications between containers on separate machines with scripts, now used by worldwide businesses including SKT and Alibaba;
- Designed and implemented a secure private set intersection service capable of handling over 50k data in Java;
- Ensured the kickoff of Alibaba Cloud Tianchi Academic Competitions by providing support on Intel Software Guard Extensions device plugin for Kubernetes;
- Supported BigDL with library-OS dependency migration from a 4-year-old Graphene to an up-to-date Gramine. Delivered usage examples and unit test validations with Java and Scala;
- Received a strong letter of recommendation from Intel's CTO of Big Data Technologies after the internship ended.

University of Michigan-Shanghai Jiao Tong University Joint Institute

Shanghai

Teaching assistant

Jan 2021 - Dec 2021

- Worked as teaching assistants in three courses in different disciplines, including Intro to Operating Systems;
- Held Recitation Classes on course matters, such as Continuous Integration, ssh, and databases
- Won the 2020 Excellent Teaching Assistant Award.

PROJECTS

Twitter Recommendation Web Service with Big Data Analytics (Java)

Pittsburgh, Pennsylvania

Lead architect

Oct 2022 - Present

- Designed a Twitter friend recommendation system that recommends new friends to users, based on user interactions.
- Implemented extraction, transform and load on a large dataset (~ 1 TB) with Spark, pipelined to a MySQL server for storage.
- Deployed the system as a web service using Vertx, on a self-managed AWS Kubernetes cluster with 7 web-tier nodes and 1 storage-tier node.
- Achieved a throughput of over 10000 requests per second while maintaining costs under \$0.7 per hour.

Time-limited Parking Spot Detection and Timeout Notification (JS, HTML, CSS, Python)

Shanghai

Leading full-stack developer

Sep 2021 - Dec 2021

- Worked with General Motors to deliver a robot car with a fish-eye camera that can detect the time range associated with timed parking spots and push timeout notifications to the user's phone;
- Developed the WeChat mini-program that receives the notification, as the team's front-end developer and UI designer;
- Responsible for incorporating the optical character recognition algorithm module to the back end;
- Achieved a processing rate of less than 100ms per image and over 95% range recognition accuracy.

Multi-threaded Database System Development (C++)

Shanghai

Team leader

Oct 2020 - Nov 2020

- Led a team of three to develop a Linux database system that supports reading queries from files, adding and deleting records, summing, subtracting, duplicating records, finding max/min values, importing/exporting tables, etc.
- Improved access speed by 400% by implementing multiple optimization methods and using thread pool to shift to multi-threading, compared to the single-thread version;
- Enforced Git usage within the team to ensure effective source code management.