

# Ezra Fu

Email: codeplay0314@gmail.com



Mobile: (412) 295-9798

Seeking 2025 Spring SDE / MLE Full-time Opportunities

## EDUCATION

### Carnegie Mellon University

Pittsburgh, Pennsylvania

Master of Science in Information Networking

Jan. 2023 – Dec. 2024

- **GPA: 4.0** | Relevant Courses: Intro to Computer Systems, Distributed Systems, Storage Systems, OS Design and Implementation, Parallel Computer Architecture and Programming, Fundamentals of Telecommunications Networks, Intro to ML, NLP.
- **Leadership:** TA for NLP Course (11-411/611); Graduate Student Assembly Rep; Co-Chair, Graduate Organization @INI.

### Fudan University

Shanghai, China

Bachelor of Science in Computer Science

Sep. 2018 – Jun. 2022

- **Awards:** Excellent Graduate of Fudan University, 2022; Outstanding Student Scholarship (2018 – 2022).
- **Competitions:** Silver Medal, ICPC Asia-East Continent Final Contest; Gold Medal, ICPC Asia Regional Shanghai (2020).
- **Publication:** “Understanding the User Interactions on GitHub: A Social Network Perspective”, CSCWD’21.

## PROFESSIONAL EXPERIENCE

### Apple

Seattle, Washington

Software Engineering Intern, AIML - Siri and Information Intelligence

May 2024 – Aug. 2024

- Incoming Internship.

### Bilibili Group (NASDAQ: BILI)

Shanghai, China

Machine Learning Engineer Intern, AI Tech Dept

May 2021 – Jun. 2022

- Maintained the recommender system in C/C++, handling over 1 billion daily requests, focusing on re-ranking and diversity control.
- Innovated three approaches to match candidates for the recommender system, boosting CTR by 1%, 3%, and 1%, respectively:
  - Identified potential episodes from video series by analyzing patterns in video titles using sequence-to-sequence models.
  - Applied GNN to find related videos with similar embeddings using data processed by Airflow, MapReduce, and Bash.
  - Utilized BERT model in TensorFlow with HNSW algorithm to match cold-start videos having similar titles.
- Established BI for the rec system with Presto and Hive, providing data support for company-level user-growth strategy meetings.

### ByteDance (Parent company of TikTok)

Shanghai, China

Software Engineer Intern, Data Dept

Jan. 2021 – Apr. 2021

- Improved feed request access across platforms (*TikTok*, *Douyin*, etc.) to the advertising system's landing page optimization service using C/C++ on Linux servers, resulting in a 1% higher conversion rate and enhancing user experiences.
- Deployed an online FreeType mechanism to support 40+ languages for the image rendering service for international advertisers.

## SKILLS

- **Programming Languages & Tools:** C/C++, Python, Go, Java, JavaScript, PyTorch, TensorFlow, Linux, Git, Docker, Bash
- **Data Technologies:** MySQL, Redis, Neo4j, Hadoop (HDFS, MapReduce), Hive, Presto, Airflow, Kafka, Storm, Zookeeper

## PROJECTS

### 🔗 Pebbles Kernel and Paravirtualization *Operating System Design and Implementation, Spring 2024*

- Implemented a Unix-like kernel from scratch, supporting multiple virtual memory address via paging, preemptive multitasking, and a set of important system calls, and supplying device drivers for the keyboard, the console and the timer.
- Wrote a user-level thread library based on the kernel, including synchronization primitives such as mutexes and condition variables.
- Transformed the kernel into a hypervisor capable of hosting itself (using paravirtualization).

### 🔗 Common Good Progressive Web Application *Thematic Development-based Project, Spring 2024*

- Migrated the account signup process from web to the app communicating results to the server within a Svelte-based architecture.
- Conducted a thorough security audit within the codebases and infrastructure of Common Good with tools like SonarQube.

## SELECTED AWARD

- Dec. 2016 - **First Prize** of the National Olympiad in Informatics in Provinces (NOIP 2016)