

# HANMING ZHOU

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## Education

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### Northeastern University

*Master of Science in Computer Science*  
*Core Courses: Web Development, Algorithm*

Sep. 2023 – May. 2025  
Seattle, WA

### Yunnan University

*Bachelor of Engineering in Software Engineering*  
*Core Courses: Data Structures, Computer Networking, Operating System, Java, Database Systems, Big Data* GPA: 3.7/4.0

Sep. 2016 – Jun. 2020  
Kunming, China

## Technical Skills

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**Programming Languages:** Java, Python, Go, Objective-C, JavaScript, HTML/CSS

**Technologies:** Linux, Docker, Spring Framework, MySQL, Redis, ZooKeeper, Kafka, RocketMQ, Elasticsearch

## Experience

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### TikTok Inc.

*Software Development Engineer*

Sep. 2021 – Jun. 2022

Beijing, China

- Produced a colossal **200TB** ABTesting dataset daily by using **Spark and Flink** technologies. These ABTest datasets played a pivotal role in creating crucial business-related experimental reports, fueling the continuous enhancement of the company's applications.
- Designed and implemented an automated **Flink SQL generation system**, leading to **80% efficiency improvement** in development. This system streamlines the process through easy configuration, enabling effortless SQL code uploads, conducting syntax checks, and engaging senior developers in code reviews prior to deployment.

### Yuanfudao Inc.

*Software Development Engineer*

Jul. 2020 – Sep. 2021

Beijing, China

- Improved purchase **conversion rate from 6% to 8%** through proactive measures, resulting in an **annual revenue increase of \$20 million** for the company. Implemented a notification system that alerted consultants to user clicks on the order button, driving prompt purchase decisions.
- Successfully **troubleshooted** the abnormal traffic issues, resulting in a remarkable **77% reduction in peak traffic load** for the database cluster. This initiative significantly improved the cluster's performance and stability.

### TikTok Inc.

*iOS Development Engineer intern*

Sep. 2019 – Mar. 2020

Beijing, China

- Delivered 16 top-notch features, elevating Vigo iOS client, providing users with an enhanced and seamless experience.
- Successful development of brand upgrade extended the application's reach and significantly enhanced user engagement, creating a cohesive experience across platforms.

## Projects

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### Fireman System for Online Classrooms

Sep. 2021

- Designed and implemented a **sensitive content warning system** capable of real-time detection of sensitive behavior in teachers' **audio and video streams**, promptly reporting such behavior within a **3-second timeframe**.
- Implemented the producer-consumer **design pattern** through **message queue** to integrate key components of the system, including stream data reception, data preprocessing (**frame extraction** and **audio stream interception**), encapsulation of detection tasks (image/audio sensitive content recognition), task distribution, task consumption, and sensitive behavior reporting.
- Employed **Thrift RPC** to facilitate communication with an image recognition service for detecting sensitive content within image frames. Additionally, utilized **WebSockets** to establish communication with a voice-to-text service, enabling the transmission of audio data and reception of text content.
- Created an audio cache using Java's TreeMap, enabling the system to **cache** incoming audio, query audio based on timestamp ranges, and automatically clear expired audio data after the detection process.

### Stream Data Processing Task Automation System

Feb. 2022

- Designed and implemented an automation system that generates **Flink SQL** automatically, resulting in an 80% reduction in engineers' workload.
- Developed an independent service using **SpringBoot** to establish seamless communication with various components, including the metrics configuration platform, **big data** development platform, and **MySQL database**.
- This service's primary functions included the automated generation of Flink SQL, creation of big data development tasks, syntax validation of Flink SQL, assignment of reviewers, and publication of Flink SQL Tasks.