# Yingzhe Dong

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## Education

**Boston University** Boston, MA
*Master of Science in Computer Science, GPA: 3.73* *Sept. 2022 – Jan. 2024 (expected)*

**Northeastern University** Shenyang, China
*Bachelor of Economics in Fintech, Minor in Software Engineering, GPA: 3.87* *Sept. 2017 – June 2021*

## Experience

**Yahoo** May 2023 – Present
*Software Engineer Intern* *Sunnyvale, CA*

- Worked on the Anti-Abuse team for HTTP traffic protection against malicious users using **C++** and **Lua**.
- Migrated our product to cloud by **Kubernetes** on **AWS Elastic Kubernetes Service**, reducing 20% latency.
- Applied **Java**, **Python**, and **wrk2** to add multi-AZ performance and failover test suites to SafeT-AWS test bed.
- Refactored a **distributed hash table** component for multi-AZ AWS deployment, cutting costs over 50%.
- Utilized **Screwdriver** to build **CI/CD** pipelines, enhancing web application firewall and rate limiter efficiencies.

**OPPO** Apr. 2022 – July 2022
*Software Engineer Intern* *Beijing, China*

- Created a face detection software module and integrated it into CV SDK using **C++**, which was used 800+ times.
- Applied **MNN** and **SNPE** engines to deploy models on **CPU** and **DSP** chips on the **ARM** architecture.
- Tested the performance of CV models on the mobile side by leveraging **Android Debug Bridge (ADB)**.
- Developed tools with custom model quantization and operator introduction functions employing **Flatbuffers**.
- Built a functional software module that can fuse multiple **TFLite Graphs**, reducing 60% message transfer time.

**Kuaishou** Nov. 2020 – Feb. 2021
*Data Analyst Intern* *Beijing, China*

- Set up a department **data center** from 0 to 1; drove and led the data reform and innovation.
- Leveraged **SQL** to retrieve data from **Hive table** and completed over 1,500 SQL queries.
- Devised a visual **data dashboard** and a departmental **data warehouse**, decreasing data-querying time by 70%.
- Upgraded analytics tools by adding sensitive video title capture function using **Python**, serving over 2,000 users.

## Projects

**A Stream Processing System with State Disaggregation** Feb. 2023 – May 2023

- Built a standalone control plane, separating tasks and states, optimizing the state migration mechanism in **Flink**.
- Applied **Java** and **gRPC** to create a distributed event-driven framework, where TaskManager manages operators.
- Utilized **watermarks** as the logical ingestion time to handle late-arriving events in window operators.
- Implemented **consistent hashing** with **virtual nodes** to minimize state migration cost during operator scaling.
- Used **RocksDB** to store state of TaskManager, employed **etcd** for storing routing table, ensuring fault-tolerance.
- Construct a scalable deployment on **AWS EC2** using **Docker Compose**, **auto-scaling**, and **load balancing**.
- Evaluated latency during state migration with **Prometheus** and **Grafana**, finding no downtime, just a 30% rise.

**FullStack E-Commerce Microservices App** May 2022 – July 2022

- Designed a front-end **React App** with server-side rendering by leveraging **JavaScript**, **Next.js**, and **Hooks**.
- Used **TypeScript**, **Express**, **Node.js**, **MongoDB**, and **RESTful API** to build a back-end system for ticketing.
- Implemented the communication between microservices through **NATS Streaming Server**.
- Deployed the entire app in **Docker** containers and executed it in the **Kubernetes** cluster with **Ingress-NGINX**.
- Facilitated the development by managing the App with **Skaffold** and deploying it on **Google Cloud Platform**.
- Constructed a reusable shared library with middlewares, events, and error handling modules by **NPM** and **Git**.
- Tested the availability of each service using **Postman**, **Jest**, **MongoMemory Server**, and **SuperTest**.

## Technical Skills

**Languages**: Java, C, C++, JavaScript, TypeScript, Python, Go, SQL, HTML/CSS
**Database**: MySQL, Redis, MongoDB, RocksDB, etcd
**Frameworks**: Spring Boot, Spring Security, Angular, React, Node.js, Express.js, Next.js, Bootstrap, TensorFlow Lite
**Tools**: Git, Maven, Docker, Kubernetes, Skaffold, Postman, Hibernate, Qt, Swagger, ADB, Linux, VS Code, Eclipse