Zhiyi(Aaron) Zhang

http://linkedin.com/in/aaron-zhiyi-zhang-60a48a175

Email : zhanz680@mcmaster.ca

Mobile : +1-437-870-3996

EDUCATION

McMaster University — Ontario, Canada
Master of Engineering in Computing and Software — *Sep. 2024 – Present*

University of Wisconsin - Madison — Wisconsin, United States
Bachelor of Science in Computer Science; GPA: 3.5/4.0 — *May. 2020*

EXPERIENCE

Meituan - Platform Engineering — Beijing, China
Software Engineer - Back-end — *Nov 2022 - Aug 2024*

- **System Design**: Led the development of **campaign** and **payment** system for user growth. Carried **20M DAU** and **peak QPS of 50,000** with **99.999%** response rate.
- **Business Development**: Contributed to user growth business line. Built **20+** core features. Increased **DAU** of product from 80K to **12M** over a year, raised **user retention rate** from **16% to 42%**. Built distributed monitor for service traffic and critical metrics for live issue detection.
- **Micro-services Construction**: Led the service splitting and restructure. Reorganize business logic. Improved data handling with **Redis** by splitting read and write traffic. Solved **90%** of legacy problems from old system. Reduced overall **TP90** response time from **230ms to 90ms**.
- **Distributed System**: Built micro-services and configuration architecture, applied **Kafka** to decouple services and employed container technology to improve system **scalability**. Enhanced business logic, used **Databus** and **binlog** to ensure data **consistency**. Developed capacities for **fault tolerance**.
- **Data Operation Optimization**: Identified slow SQL queries, refined query logic and removed redundant invocations. Applied **Redis** to handle frequently-used data, used **data partition** idea, split read and write traffic, built traffic monitor and limiter, designed client-side cache ability. Maintained TP99 business data processing time under **20ms** and **99.999%** successful rate .
- **Disaster Recovery**: Backup data in different regions. Implemented strong **fail-over** and I/O logic to enhance fault tolerance and check data consistency. Built a workflow to monitor critical metrics and trigger rate limiter when needed. Used **Ribbon** for server load balancing. Also employed **Docker** and **Kubernetes** for image deployment, and enabled **auto-scaling** for quick recovery. Kept **RTO** less than 3 mins.

Meituan - Platform Engineering — Beijing, China
Software Engineer - Front-end (Promoted twice) — *Aug 2020 - Nov 2022*

- **Front-end Infrastructure**: Contributed to MRN(Meituan **React Native**) and MSI(Meituan Standard API) frameworks. Coded on rendering and JS bridge functionality. Served **100+** business units with **10B** daily PVs, stable at **99.9999%** successful rate and **0.003%** crash rate .
- **Dynamic Distribution**: Built ability for JS Bundle distribution. Applied **S3** object storage and CDN distribution. Helped business achieve real-time content update.
- **API Management and Monitoring**: Led the construction of API management and monitoring system. Developed invocation data collection function, and wrote **Python** scripts for **CI** pipeline **(Jenkins)** plugin. Succeeded to alert and prevent **10+** P0 issue (highest-level) in the Q2 2022.

PROJECTS

Multi-Domain Image Classifier based on VGG Network
https://github.com/aaron0215/CAS771-project

- **Neural Network**: Implemented **VGGNet**-based neural network models with **PyTorch** for image classification. Used parameter fusion for cross-domain model. Improved overall model accuracy from **70% to over 80%**.

Fairness Attacks on GNNs via Node Injection
https://github.com/aaron0215/CAS747-Project

- **Graph Neural Network**: Implemented uncertainty-aware **Bayesian neural network** and optimization process for node targeting and feature injection in graph. Evaluated multiple loss functions. Tested on real-world datasets.

PROGRAMMING SKILLS

- **Languages**: : Java, Python, JavaScript, C++, SQL, Objective-C
- **Technologies**: : PyTorch, SpringBoot, Kafka, Redis, MyBatis, MySQL, Cron, Socket, AWS, React-Native, Jenkins