

Alistair Ong

Website | Github | LinkedIn | ongalistair@gmail.com | +65.8174.8289

Eligible to work in US with **H1B1 visa (Singapore)**, which is without lottery and petition unlike H1B.

EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE

BComp in Computer Science
(Honours)

University Scholars
Programme
Honours Programme

SKILLS

LANGUAGES

Experienced:

Java • Go • C++
Python • SQL

FRAMEWORKS AND TOOLS

HDFS • MySQL • Elasticsearch
Redis • gRPC • Scylla
Docker • Kubernetes • Kafka
Prometheus • Grafana

COURSEWORK

UNDERGRADUATE

Operating Systems
Computer Networks
Artificial Intelligence
Algorithms and Complexity
Software Engineering

AWARDS

2018	USP Honour Roll
2012	Standard Chartered Most Creative Apprentice
2010	Edusave Scholarships for Integrated Programme Schools (ESIP)

LEADERSHIP

2019	Peer Mentor NUS USP Computing
2017	Vice Project Director SoC Sports Camp 2018
2017	Vice Captain NUS USP Badminton
2017	Orientation Group Leader University Scholars Club

EXPERIENCE

TIKTOK | SOFTWARE ENGINEER, BACKEND

Nov 2022 – Present | Singapore, SG

- Core developer in the Hadoop Distributed File System (HDFS) team, which **manages upwards of 50EB of data**, with a focus on high availability and I/O optimization.
- Fully developed our in-house ByteCool cold storage product with 350k nodes**, (made using Intel ISA-L erasure coding library). Optimized it to **import 60PB of data daily** with automatic node orchestration and scaling. Estimated to **save company upwards of \$10 million per year** in storage costs. This feature was recognized and awarded a **Positive Optimization Award in ByteDance in 2024**. [Click to see award here](#). Written in **Java, C++**.
- Developed **HDFS JNI Client**, a Java Native Interface client for Java read and writes over C++, **improving read and write speeds** on both HDD and SSD by **roughly 10%**, and improving cold storage read speeds **by over 40%**. Written in **Java, C++**.
- Developed feature to **balance DataNodes** in our in-house distributed data management system which manages storage and distribution of data across **30 data centres and 350k DataNodes** worldwide. Balancer feature improved I/O and storage utilization balance across DCs, **cutting cross DC traffic by 26%**. Made with **Java** with **Spring, Gradle, MySQL**.

GARENA | SOFTWARE ENGINEER, BACKEND

Dec 2020 – Oct 2022 | Singapore, SG

- Conceptualized, designed and implemented a brand new messaging service for the Booyah! livestreaming app. Able to handle **100k QPS** globally across all chat groups and **1M concurrent users** in a chat group. **Peak CCU of 300k users during Free Fire World Series 2022**. Build and deployed via Jenkins to Kubernetes clusters. Made with **Go, Redis and ScyllaDB**.
- Optimized and tuned use of Redis Client Libraries and Redis Cluster to provide a **20% speedup** in cache requests, and better telemetry and observability for all engineers.
- Implemented all features related to **Elasticsearch** for performant search, filter, sort, pagination use in our new club service for Booyah!. Optimized to be able to handle **40k QPS** across all features using Elasticsearch.
- Developed dashboard, metrics, logs and tracing (telemetry) for our messaging service in Booyah! using **Prometheus, Grafana, Elasticsearch and Jaeger**.
- Developed SeaTalk Meets Beta, an internal video conferencing tool based on WebRTC. Developed the frontend and desktop client for the video conferencing using **React** and **Typescript**. Product was in internal trial phase before my rotation to Booyah! Server Team.