

# Alistair Ong

Website | Github | LinkedIn | ongalistair@gmail.com

## EDUCATION

### NATIONAL UNIVERSITY OF SINGAPORE

BComp in Computer Science (Honours)

University Scholars Programme

Grad. Dec 2020 | Singapore

### ANGLO-CHINESE SCHOOL (INDEPENDENT)

International Baccalaureate  
Grad. Dec 2013 | Singapore

## SKILLS

### LANGUAGES

Over 5000 Lines:

Go • Typescript

Over 1000 Lines:

Python • C++ • Java

### FRAMEWORKS AND TOOLS

Elasticsearch • Scylla • Redis

gRPC • MySQL • Kafka

Prometheus • Grafana •

Docker • Kubernetes • React

## COURSEWORK

### UNDERGRADUATE

Computer Networks

Operating Systems

Software Engineering

Artificial Intelligence

Algorithms and Complexity

## 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

### GARENA | SOFTWARE ENGINEER, BACKEND

Dec 2020 – Present | Singapore, SG

- Conceptualized, designed and implemented a brand new messaging service for the Booyah! livestreaming app. Able to take around max 16k QPS per chat group (hot partition), **100k QPS** globally across all chat groups and **1M concurrent users** in a chat group. 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.

### SHOPEE | SOFTWARE ENGINEERING INTERN

May 2020 – Jul 2020 | Singapore, SG

- Generalized filtering mechanism to enable greater filter combinations and more complex filtering logic. Done in Golang.
- Extracted item-item degree associations based on user clicks using Hadoop MapReduce.

### NINJA VAN | SOFTWARE ENGINEERING INTERN

Jan 2020 – Apr 2020 | Singapore, SG

- Enabled greater reliability in notification system by implementing dead letter queues with Kafka streams.
- Optimizing MySQL migrations with GitHub's gh-ost for faster performance.

### SEA GROUP | SOFTWARE ENGINEERING INTERN

May 2019 – Aug 2019 | Singapore, SG

- Improved SeaTalk speed by 27x for web and desktop app by preventing excessive re-rendering.
- Created a React-Redux web app for prototyping an events management platform.

### NATIONAL UNIVERSITY OF SINGAPORE | TEACHING ASSISTANT, COMPUTER ARCHITECTURE

Aug 2018 – Dec 2018 | Singapore, SG

Teaching assistant for around 100 students dealing with:

- Combinatorial and sequential circuit design techniques
- Processor datapath and control (execution cycles)
- CPU Pipelining and memory caching