

Waqas Ali

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EXPERIENCE

• Credit Suisse

Data Engineer, Full Stack Software Engineer

Hong Kong

August 2020 - Current

- **Conversion Tracking** Enabled performance tracking of client advice by tracking page views, email reads, click-throughs and product orders. Architected and implemented an analytics system with high availability, auto-scaling, data-quality checks, alerts, and scheduling. Used Prefect for data ingestion workflows, ClickHouse for OLAP (Online Analytical Processing), SQL for aggregations, and Python/FastAPI for the REST API.
- **Instrument Events** Delivered actionable wealth management insights through daily monitoring of research, market, corporate, and news data of 50,000 instruments. Analyzed 1M rows under 10 minutes using Apache Spark. Simplified development by using Clojure. Achieved auto-scaling and saved infrastructure maintenance hours by running Spark natively on the company Kubernetes cluster.
- **Client Advisory** Saved hundreds of monthly work hours by automating personalized advisory. Matched new investment ideas across 5,000 ultra-high-net-worth clients according to their regulatory requirements and investment preferences. (React, Styled Components, Typescript, Node.js, MongoDB, GraphQL)
- **Digital Advisory** Improved front office productivity by 10x. Replaced manual emails with a platform allowing generation, review, preview, send-off, and conversion-tracking of emails, SMSs, and push notifications. (React, Styled Components, Typescript, Node.js, MongoDB, GraphQL)
- **Risk Data Aggregation** Doubled throughput by migrating data pipeline from virtual machines to Kubernetes. Moved from parallel threads running in a monolith to 25 individual task processors running as pods. Independently auto-scaled each task processor according to its queue size. (Kotlin, Kafka, Kafka Connect).

• StudentBase Limited

Founder, Full Stack Software Engineer

Hong Kong

June 2019 - March 2022

- **Resource Sharing Platform** Developed a platform for high school students used by 25,000 unique users every month. Implemented features such as content upload, moderator approval, comments, upvotes, past paper solving, mistake tracking, and bookmarking. Prioritized tests and achieved 90% coverage. (React, Next.js, TypeScript, Node.js, GraphQL, Prisma, S3, Redis, Prometheus, Nginx)
- **Fully Automated Infrastructure** Improved release reliability by implementing continuous integration and deployment with GitHub Actions. Used Terraform to write infrastructure as code for DNS, Certificates, Virtual Machines, S3 and Content Delivery Network.
- **Fundraising & Team Management** Managed a team of 4 part-time engineers and an intern to build a successful ed-tech platform from scratch. Seed-funded HK\$100,000 by Hong Kong Science Park. Folded the company in March 2022 and stopped feature development; Currently operating as a not-for-profit at studentbase.app.

• Credit Suisse

Software Engineer, Intern (TypeScript, Java, React, CSS, Docker, Spring Boot)

Hong Kong

Summer 2019

• GRAIL Inc.

Full Stack Software Engineer, Intern (JavaScript, Go, React, Redux, SQL)

Hong Kong; Menlo Park

Summer 2018

EDUCATION

• The University of Hong Kong

Bachelor of Engineering in Computer Science (Minor in Cognitive Science)

Full Scholarship

3.51/4.30 GPA

Sept. 2016 – May 2020

OPEN SOURCE CONTRIBUTIONS

- **Geni** Added the ability to use nested Clojure data structures with Apache Spark. Implemented transformation to Spark DataFrames with automatic type inference. #336 #340
- **VSCode** Improved link highlighting in markdown files as per CommonMark Spec. (TypeScript, Electron) PR #140816

SKILLS

- **Data Engineering** Clojure, Python, Java, Kotlin, Apache Spark, Prefect, ClickHouse, S3
- **Web Development** TypeScript, HTML, CSS, React, Node.js, GraphQL, Figma, SQL, MongoDB
- **Infrastructure** Docker, Kubernetes, Terraform, Linux, PromQL, Shell