

Raiyan Chowdhury

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EDUCATION

University of St Andrews

Sept 2018 – June 2023

MSci (Hons) Computer Science; 1:1 (1st Class), 4.0 GPA – Deans List Award (2020/21), (2021/22), (2022/23)

Royal Grammar School, Newcastle

Sept 2011 – June 2018

A-level: 1x A*: Maths — 3x A: Further Maths, Physics, Chemistry

SKILLS

Languages: Python, Golang, Java **Technologies:** Git, gRPC, Kafka, Kubernetes, Postgres, Redis, Grafana, Linux

EXPERIENCE

Thought Machine

July 2023 – present

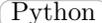
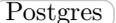
Software Engineer

- **Designed and implemented** a fully managed Kafka platform for a new department, deploying the Strimzi operator and building automated topic and per-principal ACL (Access Control List) management using mTLS authentication, with Burrow integrated for consumer group lag monitoring.
- **Designed and led the implementation of an ABAC system** working across departments, delivered as a shared library with common protos and database migrations, addressing a critical security gap.
- **Designed and implemented a custom conversion service** after finding a bottleneck during load testing. The system is replicated via our internal APIs in Postgres and updated in real-time with Kafka.
- Built several frontend apps, working with stakeholders **leading to deal with a major bank** and also implemented CI/CD pipelines with automated Cypress E2E tests for app development.
- All projects are deployed with Kubernetes and metrics monitored using Prometheus / Grafana.
- Python is used extensively to implement smart contracts (configurable Python-based product logic) and across internal tooling, including parts of our build and deployment

Software Engineer Intern

July 2021 – Sept 2021

- Designed and built a Mastercard simulator to integrate with the existing payment authorization engine.
- The simulator feeds mock Mastercard data allowing internal scheme verification.
- The simulator is shipped to clients in a sandbox environment along with our main product.

J.P Morgan – Technology Spring Week Intern

April 2020

PROJECTS

Formula 1 Race Prediction (Python)

2021

Evaluating qualifying times and building a model to predict F1 race positions.

Edge Weighted Digraphs(Dissertation)

Sept 2022 – June 2023

Writing, benchmarking, and analyzing various edge-weighted algorithms implemented in GAP (a system for computational discrete algebra).

Team Software Engineering Project (Rust, React)

Sept 2022 – June 2023

Medium-scale project building a federated forum-based social media platform.

EVENTS

Optiver Tradecraft: Implemented trading algorithms based on workshops about market making. **7th out of 30.**

Jane Street Estimation: Questions combining trivia, game theory, and mathematics. **4th out of 20.**

Competitions: Citadel Datathon, Google Hashcode, Durhack, Hack the Bubble (St Andrews) **(1st place).**