

PROFILE

I'm a software engineer interested in using maths to solve real-world problems. I like strong type systems, functional programming, and randomised algorithms. Also an ardent polyglot (of natural and designed languages), and avid climber, aerialist, and movement enthusiast.

PRIMARY SKILLS / INTERESTS

- Scala, Akka, Go, JavaScript (Node.js)
- Machine learning, probability, statistics
- Distributed systems, concurrency, asynchronous programming

PROFESSIONAL EXPERIENCE

Bench Accounting

May '16 – Aug '16 **Integrations Engineer (Remote)**

Designed combinatorial optimisation algorithm to infer correctness from unverified third-party data sources, increasing accuracy from initial 30%~ (unprocessed) to over 90%. Co-authored, deployed, monitored and maintained this integration service, which automated financial transaction reconciliation and deprecated use of manual client input.

Jun '15 – May '16 **Platform Engineer**

Built asynchronous, event-driven data-processing automation pipeline, using Scala, Akka, Apache Camel, and ActiveMQ. Worked on near-real-time financial reports generation engine using Akka and event/journal-based models. Did MongoDB to Postgres migration to help implement command query responsibility segregation (CQRS) in a distributed system.

Onboarded team members to internal tool (Vagrant with Dockerised microservices) for bootstrapping local dev environments mirroring production. Created dashboards with internal monitoring/analytics tools to identify and improve performance bottlenecks. Participated in on-call rotation.

Jan '15 – Jun '15 **Junior Software Engineer**

Co-author and primary maintainer/developer of an aggregate gateway REST API for our microservices architecture, enabling complete separation of front-end code. Shortened product delivery lifecycle by providing API templates and training front-end team to develop custom endpoints. Wrote unit tests and integration tests in Scala, Java, and JavaScript. Refactored security and role management into decoupled service.

PERSONAL PROJECTS

- **Petitions Cluster Analysis:** topic modelling and k-means clustering on a text corpus (volunteer project for MoveOn civic engagement platform)
- **Transit Route Planner:** find shortest route between two points on the MTA Subway; parsing GTFS data; comparing Python vs Go performance on graph traversal algorithms
- **Octovasion:** simple 2D game in C++; pong/space invaders
- **Attrition:** toy/interactive conceptual art in JavaScript using threejs and WebGL for in-browser 3D modelling

EDUCATION

2017
2014
2008 – 2012

Recurse Centre
Lighthouse Labs
Simon Fraser University

Three month programming sabbatical
Eight week web development bootcamp
B.A. Communication, History