

Jacob Fenton

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EXPERIENCE

Fly.io, Remote (UK/Canada) — Full Stack Engineer | OCTOBER 2023 - PRESENT

Joined to work on migrating the billing provider of our usage-based billing system from Stripe to Metronome.

Responsible for the system generating usage events based on data sourced from both Grafana metrics and a Postgres database, storing those events in a time series (TimescaleDB) database, and reliably pushing to Metronome. Wrote a recurring credit granting system for monthly recurring discounts that we needed to reliably and idempotently create.

Towards the end of the migration, focus shifted to billing & account management product work. I was responsible for making decisions about what to put on our roadmap, based on impact. I implemented our pay-as-you-go plan, region-based pricing, reserved pricing, spot pricing for GPUs. I architected and implemented a Macaroon authnZ framework for our Elixir/Phoenix app. I also designed and oversaw the development of our “unified billing” feature (many organisations billed through the same “parent” entity), a tokens management UI (fast and easy revocation/creation of Macaroon tokens with very specific capabilities), and “granular egress” pricing (charging for bandwidth based on whether the destination was inside/outside of our infrastructure).

Foodsteps Ltd, Remote (UK) — Senior Software Engineer | MARCH 2020 - OCTOBER 2023

Food sustainability startup. Full-stack web development utilising: Python/Django/Mypy (backend), TypeScript/React (frontend). Sixth employee and first software hire.

Built a self-service platform for assessing the carbon footprint of food items, with the ability to customise all stages of the life-cycle per the client’s ingredient sourcing/preparation/packaging/end-mile transport/storage. Wrote an impact calculation engine for performing impact assessments asynchronously with Celery, a GraphQL API to service the React frontend and implemented self-service payments using Stripe. Product managed, in collaboration with other engineers on the team; regularly spoke with prospective/active clients to understand core needs and determine what to put on the roadmap.

Built out all of our infrastructure including: CI pipeline in GitHub Actions, writing repeatable scripts to stand-up a fresh environment in AWS (create log groups, secrets, RDS instance, ECS clusters for our task queue and web server, S3+CloudFront for frontend delivery), and scripts to enable deployment with a single command.

Responsible for code architecture and establishing/maintaining code hygiene standards, generally during code review. Mentored more junior engineers, often via pair programming, and on-boarded engineers at all levels. Conducted the hiring process for all product engineers.

The KPH, Ladbroke Grove, London — Chef de Partie | JUNE 2019 - JANUARY 2020

Cabvision Network Ltd, London — Software Engineer

OCTOBER 2014 - OCTOBER 2015, JULY 2016 - OCTOBER 2016, SEPTEMBER 2018 - JUNE 2019

Payment processing firm. Full-stack web & mobile development. Web stack: PHP (Zend)/jQuery. Mobile stack: Payment polling client/websocket server: Golang, Webhook server: Rust, iOS app: Objective-C and Swift, Android app: Java.

Created native transaction tracking apps (iOS & Android) featuring real-time transaction push notifications, serving thousands of customers. Transactions were web-scraped from the payment processor’s portal by the polling client.

Expanded functionality of these apps to support processing of payments using a Payworks mPOS device. The app communicated with a London black cab's meter via a custom serial interface to automatically begin the payment flow upon completion of a fare.

Brevan Howard, London — *Intern* | AUGUST 2014 - SEPTEMBER 2014

Surrey Satellite Technology Ltd, Guildford — *Work Experience* | SUMMER 2013

EDUCATION

University of Cambridge, Fitzwilliam College — *Class I, BA (Hons) Computer Science*

OCTOBER 2015 - July 2018

Dissertation: designed and developed a smart card access control system that implements an authentication protocol based on asymmetric key cryptography, significantly reducing the attack surface as compared to a symmetric key auth system. Written in Java Card/Java.