

## Summary

Hands-on Engineering Leader with 10+ years of diversified experience and a passion for everything technical, ranging from real-time applications to cloud engineering.

**Specialties:** Full-stack architecture and implementation using TypeScript, React, Node.js, PostgreSQL and Kubernetes.

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## Career Highlights

- **Enabled the successful rewrite of a large trading application with a hard deadline.** The deadline was driven by Flash reaching end-of-life. I developed modern tooling, libraries and practices to enable teams to work in a highly scalable manner, and this allowed multiple teams (6-8 teams, 3-5 developers per team) to work independently yet benefit from code re-use.
- **Enabled test workflows that would normally take hours to run, to run in under a minute.** By using the container-native workflow engine Argo, I was able to parallelise E2E tests on a Kubernetes cluster.
- **Setup a Data Engineering/Science Practice.** This included hiring a team from scratch, evaluating an original consultancy's work, increasing the end-to-end performance of data pipelines by 4x, setting up quality control gates, and teaching training workshops on modern practices.
- **A meaningful amount of open-source work.** This is visible on both GitHub and Gist and ranges from bug fixes to tools used by my clients (e.g. Rollup), to novel API designs. It demonstrates my ability with a wide range of technologies (JavaScript, Rust, Swift, Python, Node.js, React, React Native, Linux, etc.)

## Selected Experience

### Open-source

#### Open-source Contributor

*Jun '13 – Present*

- [Banking for your command line](#). Written in Rust.
- [Access Twitter data without an API key](#).
- [Graphviz templates as visual configuration of Neo4j database insertions](#).

### JPMorgan Chase & Co.

#### Architect

*Aug '19 – Feb '20*

- Advised on the technical direction of the group and provided solutions to difficult organisational problems.
- Introduced visual regression testing.
  1. Auto-generated 100s of tests and then reduced the time these tests took to run from 25 minutes to 10 minutes by developing a codemod that automated rewriting 10,000s of lines of application code to use code-splitting techniques.
  2. Contributed to the open-source libraries 'cypress' and 'cypress-image-snapshot' and wrote cross-platform code and dockerized Cypress so that it could be used by engineers on Mac, Windows and Linux machines (to avoid image regression failures due to OS, browser, and font rendering differences).
  3. Used the container-native workflow engine Argo to parallelise the tests on a Kubernetes cluster. This effectively allowed test runs that would otherwise take hours, to run in under a minute.
- Introduced TypeScript into a large React project.
- Helped with the upgrade of a large 50+ component library from v3 of Material UI to v4.

### Shell

#### Technical Lead

*Dec '18 – Jun '19*

- Laid the foundations of a Data Science/Engineering practice.
- Starting from zero, hired multiple Data Engineers and Data Scientists into the team (approximately 10 DE/DS). Established a streamlined hiring process for the future.
- Reviewed earlier work on the project by a consultancy, and created a plan on how to improve problem areas. Communicated the path forwards to both non-technical stakeholders and globally distributed technical team members. Centred power within a core DE/DS team that would oversee future quality, and setup weekly discussions for thoughtful collaboration and daily stand-ups to stay in sync.
- Prioritised the rapid build of a scalable data platform to enable the new development workflow. This caused the data pipeline to run end-to-end 4x faster.
- Helped the team to share their knowledge of modern software engineering practices. Together we created and taught training workshops to teach Data Scientists modern practices for collaborating towards high-quality models (Git, PRs, CI, etc). Outside of the workshops, we used shared repositories to document the onboarding process, how to use Git for collaboration, best practices in EDAs, etc.
- Tools: Azure, CircleCI, Docker, Helm, Jupyter, Kubernetes, Python, Spark Cluster, Written Word.

## JPMorgan Chase & Co.

### Application Engineer

Jun '17 – Dec '18

- Facilitated the high-scale software development of a complex realtime trading application built using TypeScript, React and Emotion.
- Improved the quality of the PR process by developing a Danger plugin that allowed rapid feedback of real work by automatically deploying sites and linking these to PRs.
- Evangelised a modern development process with high levels of modularity by demonstrating how to use Rollup and Babel 7 to create best-in-class packages that support CommonJS, ES modules and types.
- Improved integration by making an authenticated and declarative API for the loading and code-splitting of sub-applications.
- Used working code to teach best practices on higher-order components, render props, performance, hooks, etc.

## YLD

### Node.js Engineer

Jan '17 – Apr '17

- Code reviews. How-to guides. Implementation of 4 Node.js microservices. Improved error handling.

## McKinsey & Company

### Full-stack Engineer

Apr '16 – Dec '16

- Code reviews. Mentoring. Documentation. Architecture. Implementation of a UI using React, Redux and D3.
- Wrote a number of open-source projects (e.g. [redux-saga-helpers](#) and [react-redux-wizard](#)).

## The Economist

### Full-stack Engineer

Sep '15 – Dec '15

- Created an Express.js app and numerous React components (e.g. [@economist/component-articletemplate](#)) for the [The World In 2016](#).

## Home Office

### Technology Lead

Jan '15 – Sep '15

- Rebuilt a sprawling legacy system into a set of 6 Node.js microservices and a React front-end.

*Please refer to [my full CV](#) or [my my LinkedIn profile](#) for the complete history of work experiences.*

## Long Tail

- **Infrastructure:** Alpine Linux, Argo, AWS, Azure, Cassandra, CDN, CentOS, CircleCI, Docker, Elasticsearch, Git, Helm, Jenkins, Kubernetes, Lambda, LDAP, MongoDB, MySQL, Neo4j, Nginx, PostgreSQL, RabbitMQ, Redis, RHEL, S3, SQLite.
- **Languages:** CSS, Golang, Graphviz, HTML, JavaScript, Python, Rust, Shell, Swift, TypeScript, WebAssembly.
- **Libraries:** Apollo, Babel, Celery, Emotion, ESLint, Expo, Express.js, Flask, GraphQL, Hapi.js, Jest, JWT, Koa.js, Lerna, Yarn, React, React Native, Redux, Rollup, RxJS, Styled Components, Webpack, WebSockets.

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## Education

Coursera

ONLINE

### Machine Learning

Feb '16

Course Certificate, License E3XLGER56CQ3

University of Kent

CANTERBURY, UNITED KINGDOM

Bachelor's degree in Computer Science

2005 – 2009