

# David Garner

## Technical Lead

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I'm a full-stack web developer and technical lead based in London. My primary focus is front-end development with TypeScript and React, but I also have considerable professional experience in back-end development with Node.js, Python, and Django. I place a strong emphasis on quality in all of my code, and consider code review and automated testing to be essential parts of the development process.

## Key Experience and Skills

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- Front-end tools & approaches: **React, TypeScript, React Native, Modern ECMAScript, Responsive Design, Design Systems**, Mapbox, Expo, Accessibility, Styled Components, Webpack, Microfrontends
- Languages & Frameworks: **Node.js, Python**, Next.js, Koa, Express, Django
- Infrastructure & Cloud Computing: **Docker, AWS** (including Lambda, CloudFront, Fargate, CloudFormation, CloudWatch, SAM), GCP (including GKE, PubSub, BigQuery), Kubernetes, Terraform
- Testing: **Jest, React Testing Library, Mocha, Selenium, TDD**, BDD, pytest
- Source control and CI/CD: **Git**, CircleCI, Jenkins, TeamCity, Gitlab CI
- Command line tools: Vim, Bash scripting, common Unix CLI utilities (`sed`, `grep`, `make`, etc.)
- Monitoring: Sentry, Datadog, AWS CloudWatch
- Process management: Scrum, Kanban, Jira, Trello
- Other: PostgreSQL, GIS, GraphQL, REST, Consumer-driven contracts

## Employment History

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### January 2022 - June 2024: YLD, London, UK (Contract role)

Camion, January 2024 - June 2024

I worked as a consultant from YLD for Camion, an energy tech start-up which determines the potential value of installing electric vehicle chargers at different locations.

- I created Camion's flagship product from scratch with a team of two other developers: an interactive web app allowing landlords and charge point operators to identify the costs and profitability of building charge points at arbitrary locations. The app consisted of an interactive map of the UK which presented in-depth analysis at individual points and calculated estimates across larger areas, and tools for allowing app users to manage and customise their portfolios of potential sites and export the analysis into CSV and PDF formats.
- As consultants for YLD contracted by Camion, we introduced Agile processes including daily stand-ups, retrospectives, a Kanban board, roadmaps, and breaking work up into tickets in refinements.
- As the first software developers working with the company, we made all the decisions on the tech stack, including React and Next.js for the app, Mapbox for the interactive map in the UI, PostgreSQL with PostGIS for the database, Vercel for CI/CD, and AWS for the database hosting, cloud functions, and user-management via Cognito.

- Within a small, fast-moving team where priorities changed quickly, we delivered the initial app from scratch to production within three months, and successfully completed an extra milestone of user-requested addition features before the end of the contract.

#### Zoa, January 2023 - December 2024

I worked as a consultant from YLD for the energy tech start-up Zoa as they broke away from Bulb and formed an independent company to create white-label apps and tools for energy suppliers.

- I worked with the "apps platform" team to build and maintain a monorepo containing our web apps, native apps, and backend-for-frontend services, and designed architectural and usage patterns for developers creating product features;
- I built the core code of the React and React Native features which would allow an energy consumer to manage their electric vehicle charging schedules and view their household energy consumption;
- I designed and implemented an approach for "universal" client-side navigation wrapping around web and native navigation libraries;
- I helped create an internal design system, building components and designing their APIs, with an emphasis on accessibility, universality between web and native, and ease-of-integration for developers;
- I participated in technical design and modelling discussions on the energy supply domain and our platform architecture;

#### Bulb, January 2022 - December 2022

I worked as a consultant from YLD for the energy supply company Bulb.

- I maintained the legacy energy usage charts in the mobile app, fixing issues in the React Native front-end, the backend-for-frontend Apollo server, and the back-end TypeScript microservices;
- I helped build a feature to allow users to see a breakdown of their household energy usage, with a data-ingestion pipeline using GCP PubSub and an integration to a third party providing the disaggregation model;
- I assisted and trained my team in designing backwards-compatible GraphQL schemas, emphasising stability in previously-released versions of the mobile app;
- I created a budget-setting feature to allow customers to track their energy usage, with mobile push notifications implemented in Firebase;
- I joined technical design discussions with technical leads and engineers.

#### April 2020 – October 2021: QMetric, London, UK

##### Senior Front-end Lead, then Technical Lead (from November 2020)

I took ownership of the JavaScript codebases within a home insurance platform.

- I maintained and extended a customer-facing app and a backoffice app for purchasing and modifying home insurance policies, with front-ends and backends-for-frontends implemented in React, Express, TypeScript, and RxJS.
- I provided technical leadership, architecture design, and support on a wide range of parallel projects and initiatives, including the front-end rebuilds of the insurance risk form, the payments page, and the landing page, as well as the introduction of user-behaviour-tracking analytics and A/B testing.
- I worked with business analysts and delivery managers to break down high-level business requirements into self-contained user stories for development.
- I participated in large-scale architecture discussions with the other tech leads and tech principals to plan the evolution of our cloud-native, event-driven, microservice-architected insurance platform, implemented primarily in Java with Domain Driven Design.
- I conducted interviews for candidate front-end developers, as well as setting take-home assessments.

- I organised and conducted onboardings, team training meetings, and technical design discussions within a fully-remote team.
- I initiated and assisted with multiple tech-debt initiatives, including the migration of the codebase away from RxJS, the Docker containerisation of the legacy services, and the introduction of browser-side error monitoring and reporting.
- I designed, prototyped, and initiated the implementation of a Microfrontend architecture across our front-end codebase to support multiple teams developing the same application in parallel.

## August 2015 – March 2020: Mintel, London, UK

I started my career as a graduate software developer at Mintel, progressing to a software developer within a year, and then to **technical lead** by March 2019.

Mintel is a 50-year old multinational market research agency offering many products for delivering its research, data, and in-depth analysis to businesses. Its technical stack was large and complex, reflecting its long history and wide variety of different products developed and sold in many different countries over the years.

During my time there, I gained a wide range of experience working with multiple new and in-production codebases, including web apps for aggregating and presenting direct marketing data and consumer survey data into tables, charts, and dashboards, and web apps for searching, reading, and generating presentations from long-form market research articles.

I eventually became the technical lead on the front-end rebuild in React of one of Mintel's core products, gathering requirements with project leads, product development, and the design team, and coordinating the work with 17 developers based in London, Chicago, and Shanghai.

- **Technologies:** JavaScript, React, Redux, Python, Django, Solr, Elasticsearch, Bash scripting;
- **Leadership skills:** Requirements gathering, tech-debt prioritisation, interviewing candidates, presenting talks and workshops;
- **Development skills:** Agile processes, automated testing (unit, integration, browser, visual regression), code review, UI design systems.

## Education

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### 2011–15: Queen Mary University of London, London, UK

**Degree: Doctor of Philosophy (PhD)** in Theoretical Physics (String Theory)

As a graduate student, I authored multiple papers published in peer-reviewed academic journals, gave talks at multiple academic institutions, and taught Physics undergraduates.

### 2007–11: University of Cambridge (Christ's College), Cambridge, UK

**Degree: BA with MMath, Mathematical Tripos**, First Class/Honours Pass

## Interests

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### Coding

I've contributed to various open source JavaScript projects, attended conferences and meetups on TypeScript, React, and GraphQL, and experimented in personal projects with Rust, Firebase, Svelte, NumPy, and TensorFlow.

### Other

Board games, heavy metal, folk, sci-fi, fantasy, festivals, travelling, running, craft beer