

James Chancellor

Senior Software Engineer

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Senior software engineer (15+ years) building **back-ends** (Java/Node) and **front-ends** (TypeScript/React) for the cloud (AWS/GCP). Independently developed apps from conception to launch. Solves **complex problems**, eg sensor fusion, route optimisation, and aerodynamic modelling.

Experience

Bazaarvoice (Full-Stack Software Engineer)

Oct 2024

- Optimized YouTube creator search rankings using SciPy.
- Improved React statistics dashboard to include Instagram competitors.
- Architected ingestion pipeline for TikTok mentioned posts.

FlintMint (Full-Stack TypeScript Engineer)

May 2023

- Developed core API endpoints in TypeScript/Express.js with integration tests.
- Automated infrastructure deployment on the Google Cloud Platform (GCP) with Terraform and GitLab.
- Implemented key UI designs for managing complex data structures in React.
- Implemented load-balancer and SSL architecture and simplified serverless deployment options.

Aidium (Software Engineer)

Feb 2023

- Enabled call forwarding functionality with Twilio API
- Integrated the platform with Zapier, writing the app and webhook endpoints
- Improved integration with the Encompass API, an industry-specific data source

Flux Vario (Independent Android App Developer)

Apr 2022

- Created an Android variometer app (<https://play.google.com/store/apps/details?id=com.fluxvario>) for paraglider pilots that instantly measures the climb rate.
- Designed a sophisticated sensor-fusion algorithm and a low-latency audio pipeline.
- Combined performant Java sensor and audio code with a React/JavaScript UI.
- Managed free trials with an Express/TypeScript/Docker/GCP back end.

Latch (Java Engineer)

Dec 2020

- Developed core features of a Java/Mongo API and Play web UI.
- Introduced a new automated API test suite, enabling faster and more confident development.
- Integrated rapidly with 3rd-party APIs, allowing onboarding of new clients ahead of schedule.
- Made large performance improvements by identifying missing database indexes, algorithmic inefficiencies, and more compact data formats, enabling support for important future clients.
- Created documentation of the solution for non-technical clients.

Ski Nav (Independent Mobile App Developer)

Mar 2019

- Created iOS/Android skiing app (<https://ski-nav-app.com>) for point-to-point routing and locating friends in resorts worldwide
- Identified need not adequately met by existing apps
- 5000+ downloads within first few months of launch
- Effectively engaged with users to set product direction and adapt to feedback
- Implemented vanilla JS UI with Three.js 3D map, showing solid core skills (ES8/CSS3)
- Designed code, features, UX, graphics & marketing copy
- Choose Node/Koa API, exploiting "universal" nature by sharing model code
- Used simplest technologies required to solve the business problem: AWS Elastic Beanstalk, RDS (Postgres), ElastiCache (Redis) and AWS SNS (WhatsApp-style authentication)
- Learned many new technologies (incl. JavaScript ecosystem, Node, Cordova)

<i>Avian Hang Gliders (Aerodynamic Modeller)</i>	Jun 2018
<ul style="list-style-type: none"> Created computer model of hang glider dynamics (https://jchancellor.uk/hgmodel/) to enable optimisation of handling/performance trade-off - a new approach in the industry Used Python/NumPy/SciPy to directly implement a coupled finite element method (structural) and vortex lattice method (aerodynamic) system Required implementation of large-deflection elasticity of 2D surface in 3D space - not widely implemented in commercial FEM software Learned these complicated techniques/technologies quickly 	
<i>Genomics England (Java Engineer)</i>	Nov 2017
<ul style="list-style-type: none"> Introduced large suite of automated tests to large existing project, significantly improving quality Implemented authentication, pagination and other BAU features of Java-/MongoDB-based web app Bridged the communications gap with the operations team to help enable rapid, reliable deployment of new code 	
<i>Skiworld (Chalet Host) / High Society & Off To Work (Events Assistant)</i>	Dec 2016
<ul style="list-style-type: none"> Cooked breakfast, tea, and four-course dinner 6 days a week and generally looked after guests 2nd highest feedback rating out of the company's 14 chalets in the resort 	
<i>Mendeley, Elsevier (Java Engineer)</i>	Jan 2015
<ul style="list-style-type: none"> Developed and maintained core micro-services that powered the Mendeley application Automated provisioning and configuration of build server infrastructure Mentored junior developers and improved the interview process 	
<i>Hotels.com, Expedia (Java Engineer)</i>	Nov 2012
<ul style="list-style-type: none"> Developed and maintained Java-based services Performed a detailed analysis of geographic data during data-source migration to identify many sources of errors and hugely improve quality Key contributor to design of new services 	
<i>Various Secondary Schools</i>	Nov 2011
<ul style="list-style-type: none"> Gained 6 weeks' work experience, taught half a dozen lessons, and was offered places on competitive courses 	
<i>Ocado (Java Engineer)</i>	Nov 2009
<ul style="list-style-type: none"> Led the production-implementation and made key contributions to the algorithms powering the 3D packing program, which determines the minimum number of containers required to hold the items for each order whilst optimising several other constraints Implemented a detailed analysis of the above algorithm's performance to enable further optimization Led the second phase of development of a system that directed staff from busier aisles to quieter ones 	
<i>A. Menarini Pharmaceuticals (Business Intelligence Specialist)</i>	Aug 2008
<ul style="list-style-type: none"> Automated report procedures with VBA for Excel/Access 	
<i>i3 Innovus (Software Developer)</i>	May 2008
<ul style="list-style-type: none"> Developed GUI for existing Excel-based health economics model 	

Education

<i>Bristol University, Mechanical Engineering (MEng)</i>	2004-2007
<ul style="list-style-type: none"> 2:1 	
<i>Cambridge University, Engineering</i>	2003-2004
<ul style="list-style-type: none"> 85% overall exam result 	
<i>Royal Grammar School, High Wycombe</i>	1997-2003
<ul style="list-style-type: none"> A-level: 4 A (96% average) GCSE: 7 A*, 6 A Physics Olympiad: top 50 in country; Senior Maths Challenge: Gold 	

Skills

LANGUAGES: Java, Scala,
Python, JavaScript,
TypeScript, Bash, Lisp

MONITORING: JConsole,
JVirtualVM, Dropwizard
Metrics

BUILD TOOLS: Maven, Webpack,
Babel

DB: Oracle, Postgres, MySQL,
MongoDB, Redis,
Elasticsearch, Hadoop,
HBase

WEB CONTAINERS: Jetty, Tomcat,
Node.js

SOURCE CONTROL: Git, SVN,
Mercurial, Perforce

IPC/DATA-BINDING: JAX-RS,
RESTful, Java RMI, Apache
Avro, XML, StAX, JAXB,
JSON, Jackson, GSON

INFRASTRUCTURE: AWS, Docker,
Terraform, Salt

OS: Linux, Windows

TESTING: JUnit, TestNG,
Mockito, Restito

WEB FRAMEWORKS: Jersey, Koa

LOGGING: Kibana, Log4j, SLF4J