

Ben Butterworth

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London, UK [[Stack Overflow](#), [LinkedIn](#), [Website](#)]

I am often thanked for solving pressing architectural/design issues and significantly improving user/developer experience. Outside work, I develop apps, write Stack Overflow answers ([top 0.2%](#)), give [talks](#), maintain a website (10K visitors/month) and maintain open source (e.g. push notification [package](#)). I received dean's list & distinction for computer science & engineering degrees at Imperial.

WORK EXPERIENCE

Software Engineer at Helsing.ai (Python, DevOps) – Remote

- Improved company-wide APIs/architecture (gRPC) with design docs, presentations and SDKs
- Reduce workload in other teams and improved consistency by writing packages (app configuration, metrics, ML pipeline), automation tools, CI/CD templates and Helm charts
- Deploying applications using Docker, Gitlab CI/CD, Kubernetes and Helm
- Fixed internal publishing and installation for NPM packages and publishing of Rust crates
- Developed, documented and tested drone application, including automated simulations tests
- Writing fast unit and integration tests with high test coverage (e.g. 92%)

SDK Developer at Ably.com (Flutter, iOS, Android) - Remote

- Oversee development by contractors working on other SDKs (iOS and Android)
- Added push notification and encryption support to Flutter [package](#), abstracting iOS and Android APIs into ergonomic Flutter API. Spawning Flutter Engines for background processing.
- Added Swift Package Manager support to 1 Objective-C and 1 Swift library, while using advanced module structure to ensure proper API access control for SDK users.
- Found bugs in internal and open-source code, providing actionable bug reports & fixes
- Built an anonymous video calling app (<https://club2d.orth.uk>) which generates a 3D face mesh, rendering it other user's browsers in real time. Gave [talk](#) at JSMonthly.
- Released open-source libraries: creating changelogs, writing documentation, handling issues and keeping enterprise customers such as banks feeling supported and happy.
- [Fixing and enhancing documentation](#) on the Ably documentation site covering all SDKs
- [Contributed Flutter Engine PR](#) to enhance Flutter plugin development on iOS.

Mobile ML Engineer at Popsa.com (Kotlin, Swift, TensorFlow) - Remote

- Designed and built on-device photo library face recognition feature, including parallel image processing and IO, profiling and optimising memory and throughput across devices
- Built photo albums title suggestions using EXIF data, using Protocol-buffer based APIs.
- Wrote NumPy files parser in Kotlin to investigate cross platform image processing inconsistencies and subsequently discovering a bug in Android graphics library.
- Optimized models in Python with additional layers and pre-processing to improve performance

- Built internal tools for data scientists, including Python applications and macOS CLI tool to run models, including distribution for macOS (notarization) and progress animations.

Mobile Engineer, University software project (**React Native**)

- Published mobile app to help 'calculate carbon impact of food' on Apple Store and Play Store.
- Wrote helpful documentation and automated processes with scripts and CI/CD tools.
- Built landing page in React and GatsbyJS in 4 hours: <https://foodprint.orth.uk>.
- Helped developers learn and be productive by teaching and guiding them, opting for Javascript and React Hooks for simplicity (Used Redux, Typescript in personal projects).

Software Engineer (Mobile Team) at Ocado Technology (**Java**)

- Designed mobile-friendly APIs for mobile application offering sold to other supermarkets
- Reduced response time for requests by 3x, 1.24s to 0.39s by merging related APIs.

EDUCATION

Imperial College, Master's in Computer Science, **Distinction (highest)** 1 year

- C++, OOP, Computer vision, ML, Information Security, Networking and Distributed Systems.
- Thesis: comparing/ implementing real-time ML systems for the edge and in cloud.
- Built [receipt scanning app](#) and invited to present app and meet start-up with £150m investment.

Imperial College, Master's in Engineering, **1st class (highest), Dean's list** 4 years

- Developed automated painting machine, one component of an automated mini factory, using Autodesk SketchBook, Arduino, Solidworks, 3d printing, CNC machining
- Business School courses: Project Management (A*) and Strategic Management (A*).

Massachusetts Institute of Technology, exchange student 6 months

- Courses: Intro to Algorithms, Entrepreneurship in Engineering, Intro to Machine Learning.
- Research assistant: Analysed molecular simulation data for [publications](#) using Python.

VOLUNTEERING, HOBBIES & AWARDS

- Special constable (volunteer police officer) at [London Metropolitan Police Service](#)
- Developed open-source push notifications [Flutter package](#) and presented at [GDGDevFest](#)
- Self-taught ML engineering and TensorFlow, achieving the [TensorFlow Developer Certificate](#).
- Organising and running events for 800 students in Halls, given Imperial Volunteer award.
- Managing DNS records and app releases for customers, organisations and personal projects.
- Author of technical articles & guides on <https://orth.uk>, averaging 10K unique visitors a month, with one article gaining 33K unique visitors in 3 days and top of [Hacker News](#).