

# Ben Butterworth

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

I enjoy serving customers and developers, and am often thanked for improving user or 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 (Platform)

Jan 2022-now

- Improved company-wide APIs/architecture (gRPC) with design docs, SDKs & presentations
- Reduce workload in other teams and improved consistency by writing packages (app configuration, metrics, ML pipeline), automation tools, CI/CD templates and Helm charts
- Wrote CI/CD jobs to deploy applications into development and production environments
- Built tool to generate and publish protobuf/gRPC packages for Rust, Python and Javascript, including dependencies between packages (e.g. modifying Cargo.toml, Package.json, etc.).
- 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 / integration tests with high test coverage (e.g. 92%) and gave workshops.

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

Apr 2021-Dec 2021

- Nominated for the Ably award, "bias for action" on my last week of work at Ably
- Oversee development by contractors working on other SDKs (iOS and Android)
- Added push notification and encryption support to Flutter [package](#), abstracting iOS / Android APIs into ergonomic Flutter API. Spawning Flutter Engines for background processing.
- 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.

### Machine Learning Engineer at Popsa (TensorFlow, Python, Kotlin, Swift)

Sep 2020 - Apr 2021

- 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 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**) Dec 2019 - May 2020

- Published mobile app to help 'calculate carbon impact of food' on Apple Store / Play Store.
- 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**) Feb 2019 - Sep 2019

- 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.

**IT Support** at Emberton, part-time Sep 2017 - Jan 2019

- Migrated vulnerable systems into secure, easy-to-use products (Gmail, Google Drive)
- Designed (sketching, 3D modeling) products for hotel rooms, e.g. iron & iron board holder

## 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 and meet start-up with £150m investment.

**Imperial College**, Master's in Engineering, **1<sup>st</sup> 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 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](#).