

Ben Butterworth

ben@orth.uk

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

Outside of my job, I develop Flutter apps, write Stack Overflow answers/questions ([top 0.2%](#)), give [talks/workshops](#), maintain a website (10K visitors/month) and contribute to open source (Flutter, flutter packages, and my own Flutter package). I received dean's list & distinction for my degrees in computer science & engineering. I simplify and solve complex problems and domains.

WORK EXPERIENCE

Software Engineer at Helsing.ai (Python, Rust) - Remote January 2022-now

- Authoring an internal RFC about API design using Protobufs improving design and architecture
- Fix internal deployment of Rust packages (crates), so rust applications can use them
- Configuring docker for projects to allow developers to develop consistently on any IDE and OS
- Configuring CI/CD in Gitlab to automate embedded application builds, testing and deployment
- Writing CI/CD templates to simplify writing CI/CD jobs in other projects/teams
- Developing, documenting, unit testing and integration testing applications running on drones

SDK Developer at Ably.com (**Flutter** / iOS / Android) - Remote April 2021-January 2022

- Oversee development by contractors working on other SDKs (iOS and Android)
- Added push notification and encryption support to [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 (**Android, iOS, TensorFlow**) - Remote Sep 2020 - April 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 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**)

Dec 2019 - May 2020

- 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**)

Feb - 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.

EDUCATION

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

Oct 2019 - Aug 2020

- 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 and reimbursement app with React Native as part of a team who focused on the backend implementation, then invited to present app and meet employees at Fintech start-up with ~£150m investment.

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

2014 - 2018

- 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

2017

- 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 (police officer) in training 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.