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

Senior Software Engineer at Helsing (AI Platform, Python)   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, **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 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.