

Benjamin Cummings

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Relevant Experience

Google | Software Engineer Intern – Wear OS Team 06/2025 - 09/2025

- Designed a multiplatform compiler in Kotlin for XML watch face files, running on Node.js and the JVM, that validates watch faces across all syntax versions and returns detailed error messages.
- Integrated watch face validator into the Google Play Store and Samsung Watch Face Studio, enabling automated design compliance checks before device-side rendering.
- Selected to present a top-placing Google hackathon project to a company-wide audience.

Inrupt inc. | Software Engineer Intern 09/2022 - 05/2023

- Developed and maintained the first Solid Java SDK, providing APIs for interacting with Solid Containers.
- Designed an HTTP header parsing framework using ANTLR grammars.
- Built and deployed full-stack demo app with Spring Boot to showcase the SDK's features and capabilities.

Education

Imperial College London 09/2023 - 06/2027

- Mathematics and Computer Science (MEng) - 1:1 in first and second year.
- Awarded the C Group Project Prize, Third Place for the Amadeus Prize ('Designing for Real People').
- Awarded 'Ash' Scholarship, part-time student at The Royal College of Music.
- Treasurer and Principal Cellist for Imperial College Symphony Orchestra. Active member of the Algorithmic Trading and Investment Societies.

Balerno Community High School 08/2016 - 06/2022

- A*A*A*A*A* in SQA Advanced Higher Exams, highest mark in Computer Science, Music and English.
- Awarded School Dux Award (Valedictorian). TMUA: 7.0, STEP 2, and STEP 3.

Relevant Projects

WACC Compiler *Scala, x86 Assembly*

- Built and deployed an end-to-end compiler for WACC, a simple teaching language. Used parser combinators to build a typed AST and generate optimized, memory-safe x86 assembly – achieved 97%.

Shop Sherpa *TypeScript, Next.js/React, Firebase*

- Led a team of four to develop a full-stack shopping companion app delivering nutrition, quality and price-point data via barcode scan, with real time community reviews and product recommendations.

PintOS Operating System *C, GDB, QEMU*

- Implemented key operating system features including thread scheduling, system call handling, and resource management, enabling safe and efficient execution of user programs – achieved 86%.

ARM Emulator and Assembler *C, ARM Assembly*

- Designed and implemented an emulator for FDE cycle on the ARMv8 architecture, together with an Assembler to parse ARM Assembly into machine code for execution on a Raspberry Pi.

Chess Game with AI Opponent *Java, Swing, MariaDB*

- Designed a chess game with a customizable GUI, game-saving and a minimax-powered AI opponent.

Skills & Interests

Computer Programming:

- Proficient in: Java, Kotlin, C, Haskell, C#, Python, JavaScript, TypeScript, and Scala.
- Strongly interested in Functional Programming, Algorithmic Trading, and Compiler Design.
- Frameworks & Developer tools: backend (Spring Boot, SQL, MariaDB), frontend (Next.js, React, Vue), systems programming (ARM/x86, GDB, QEMU), DevOps (Git, GitHub Actions, Linux).

Music:

- Freelance professional cellist and part-time student at the Royal College of Music.
- Achieved 98% in ABRSM Diploma. Appointed Principal Cellist of the National Youth Orchestra of Scotland and Junior RCS Symphony. Featured on BBC Radio Scotland, BBC One and in the BBC Proms.