

John Kelly

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EDUCATION

Imperial College London

Bachelor of Engineering in Electronic & Information Engineering (EECS)

London, England

Sep. 2023 - July 2026

Magdalen College School

A-levels in Maths (A), Computer Science (A*), and Physics (A*)*

Oxford, England

Sep. 2015 - July 2022

EXPERIENCE

Software Engineer - Intern

Marshall Wace Asset Management

July. 2024 – Aug. 2024

Oxford, England

- Additionally received offers from Bloomberg L.P., Arm, and competing Hedge Funds
- Incoming Summer 2024

Software Engineer - Placement Year

Hero Health Software

Sep. 2022 – Sep. 2023

Oxford, England

- Led a multi-team project over 6 months, integrating a new clinical system into the application, spanning multiple languages, frameworks, and services
- Re-designed the CI/CD pipeline, cutting test times from 90 minutes to 15 minutes and reducing cost
- Optimised high-throughput data processing services, cutting median execution time from 2 hours to under 4 seconds

Software Engineer - Intern

Hero Health Software

June 2021 – Aug. 2021

Oxford, England

- Migrated a background-job service between frameworks
- Designed, implemented, and tested code & infrastructure for card-reader payment systems

Open Source Work

.NET JIT Compiler, Rust Compiler, ComputeSharp, & Others

ACHIEVEMENTS & AWARDS

First Place Undergraduate (3rd overall) - Imperial Algorithmic Trading Competition

Team of 2 - data modelling & research challenge by QRT

2023

Microsoft Most Valuable Professional Award Nomination - Youngest Ever Nominee

"Recognizes exceptional community leaders for their technical expertise, leadership, speaking experience, online influence, and commitment to solving real world problems"

2022

.NET Foundation Voting Member

World's youngest member at time of acceptance (age 16)

2020

GCHQ CyberDiscovery Program

Attended to the in-person CyberDiscovery Elite camp as part of the only team that successfully cracked the final challenge

2019

Summerton Prize for Computing - Magdalen College School

Received award twice for academic excellence in Computing

2019 & 2022

Top 15 in Oxford University Computing Challenge

Result out of over 10,000 international participants

2018

UKMT Gold Awards

Various

PROJECTS - See 'Pinned' section of GitHub profile

JCC | C, Compilers, Optimisation

Nov. 2023 - Ongoing

- Work-in-progress C11 compiler with zero 3rd party dependencies
- Pure C11 compliant code with a hand-written lexer, parser, and native ARM64 machine code backend
- Utilises SSA intermediate representation & linear-scan register allocation techniques for codegen

MathSharp | C#, x64, SIMD

Oct. 2019

- The fastest SIMD-focused linear algebra library for C# at time of release
- At time of release, offered 40-75% speed improvements over the .NET Core library & other alternatives
- Utilised x64 & AArch64 architecture extensions including FMA, SSE, AVX, and NEON
- Gained over 600 stars on Github & over 7,000 downloads