

George Kaye

About

My clear logical thinking and adaptable approach to problem solving has underpinned my ability to study for a PhD in Computer Science from the University of Birmingham, which I am close to completing. I have the motivation to complete tasks on time and consistently manage my workload effectively. Additionally, my personable nature means I can work successfully in a team as well as independently. During my studies I have confidently delivered research talks and fielded questions across audiences from a variety of backgrounds. I also worked as an intern at Huawei's Programming Languages Lab, which has led me to pursue other digital roles in industry.

Contact

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Technical skills

JavaScript TypeScript SQL

React/Next.js HTML/CSS

Python Docker OCaml

Haskell Scala C/C++

Rust Java Linux Git

VS Code LaTeX

Interests

Hiking Canals and railways

Playing the piano

🎓 Education

• PhD in Computer Science, University of Birmingham

September 2019 - July 2024

Using category theory to define a *fully compositional framework* for digital circuits with delay and feedback, leading to a *operational semantics* and *equational theory* for circuits, as well as allowing for automatic reasoning about them with *graph rewriting*.

• MSci in Computer Science, University of Birmingham (Honours, Class I)

September 2015 - July 2019

Studied modules including Compilers & Languages, Functional Programming, Software Workshop, C/C++, Operating Systems, Teaching CS In Schools

• Malmesbury School

September 2008 - May 2015

A-levels: Maths A*, Further Maths A*, Physics A, Religious Studies (AS) A, Music (AS) B
GCSEs: 7A*s, 4As (including English and Maths)

💼 Experience

• Teaching Assistant, University of Birmingham

September 2019 - June 2024

Supporting the *Logical and Mathematical Foundations for Computer Science*, *Theories of Computation*, and *Compilers & Languages* modules. Have led regular group tutorials for 10-20 students and distributed the marking of assignments between the teaching assistants. Received awards in 2022 for going above and beyond my duties.

• Research Assistant, University of Birmingham

November 2023 - June 2024

Integrating the School of Computer Science's research student progress system into the existing OCAML system used for monitoring undergraduate progress.

• Research Intern, Huawei R&D, Edinburgh

January 2021 - November 2023

Worked as part of the Programming Languages Lab in designing a hardware description language in Huawei's new programming language. Developed compiler optimisations for the new programming language using the large C++ codebase.

• Supermarket Assistant (part-time), Waitrose Malmesbury

July 2014 - September 2019

🤝 Volunteering

• Local Organiser, Twelfth Symposium on Compositional Structures

15-16 April 2024

Raised funding to host the next edition of this conference at Birmingham. Will maintain the conference webpage, organise social events, book and set up rooms, arrange catering, and work with the committee to assemble the selection of talks.
URL: <https://www.cl.cam.ac.uk/events/syco/12/>

• Theory Seminar Organiser, University of Birmingham

March 2022 - March 2024

Inviting speakers for the weekly research seminar, communicating with both speakers, hosts and audience, and setting up and maintaining the room during talks; also campaigned for extra funding to provide accommodation for speakers.

• Local Helper, Midlands Graduate School 2023

02-06 April 2023

Assisted with the *String Diagrams* course, guided students around campus and to/from various social events, plus provided technical assistance throughout the week.
URL: <https://www.cs.bham.ac.uk/~mhe/events/MGS23/>

• Further Years Rep, Staff/Research Student Consultative Committee

September 2022 - July 2024

Championing research students' issues: successes include the preservation of permanent student desks, restoring student profiles to the university website, helping reform the progress monitoring system, and improving the School's cleaning policies.