# Peter Laszcz

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*I am currently studying for an Integrated Masters course in Mathematics and Computer Science at the University of Birmingham, and am entering my penultimate year. I have developed skills in programming and mathematics through both my work experience and the course of my degree. I supplement my academic interests through personal and independent research, including attending lectures from other departments and institutions. I wish to pursue a career in research with computer science and applied mathematics after I graduate.*

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## Work Experience

### *Open Source Developer with Google Summer of Code (May 2025 - Present)*

- Recieved a stipend from Google through organisation by the Python Software Foundation to develop features of Ilastik (image processing/ computer vision software) under the mentorship of Ilastik developers at the European Molecular Biology Laboratory, Heidelberg.
- Developing program features within a test-driven agile-based development team.
- Delivering weekly progress updates at team meetings.

### *Research Associate at the University of Birmingham (September - December 2024)*

- Provided programming and mathematical modelling support for ARME, an EPSRC-funded project focused on developing a computational model for musician synchronisation in ensemble performance.
- Responsibilities included: developing and porting code for the models; performing analysis on experimental data; managing the source code via Version Control Systems; providing code and model documentation; attending weekly team meetings to present updates and results.

### *Research Intern at University of Birmingham Positron Imaging Centre (June -August 2024).*

- Conducted experimental data analysis on a mixing chamber (fluidised bed) system to aid development of a circular economy for plastics recycling.
- Wrote Python and MATLAB software to perform particle-tracking and X-ray data analysis on the system, using the pandas and SciPy libraries to handle the outputs and produce useful results.
- Deployed and maintained the programs on the university's HPC system.
- Developed features of in-house particle data analysis software (up4-gui).
- Produced a Python program which enables the quantitative analysis of the system using X-ray based computer vision in conjunction with convolutional neural networks and data science libraries.
- Discussed the aims, progress, and impact of the research project with academics from the university and abroad at conferences, building confidence in communication.

## Volunteer Work

### *Treasurer at Ruislip SVP (2021 - 2022) and University of Birmingham G&S Society (2024 - )*

- Collecting & processing financial and administration data.
- Collating receipts and invoices to produce and present reports and determine methods of managing costs.
- Developing organisation skills as a result.

### *Young Scout Leader (2021 - 2022)*

- Planned and organised a weekly activity schedule with a team of leaders for a scout patrol, building teamwork skills and confidence in project management.
- Ran schedule with patrol, which necessitated skills in communication with large groups.

### *Overseas Volunteering (Summer 2024)*

- Worked as part of a team to provide wheelchair aid to mobility-assisted people in the French Pyrenees.
- Was assigned to a specific assisted person alongside another volunteer, allowing me to gain experience working and communicating in a smaller team.
- The work raised my awareness of social issues such as lack of wheelchair-friendly infrastructure.

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## Education

### *University of Birmingham (2023 - )*

*M.Sci Mathematics and Computer Science:*

- Penultimate year student, graduating 2027
- Currently working at 1:1 grade.

### *Cardinal Vaughan Memorial School (2021 - 2023)*

*A-Levels:*

- Mathematics- A*
- Physics- A*
- Chemistry- A
- Further Mathematics- B

### *St Joan of Arc Catholic School, Rickmansworth (2016 - 2021)*

*GCSEs:*

- Grades 9-7:
- Mathematics (9), Triple Science (9,9,9), Computer Science (9), French (9, Speaking Distinction), English Literature (9), English Language (8, Speaking Distinction), Music (8), Religious Studies (7).
- Outstanding Achievement award in Mathematics, Computer Science.

## Non-Academic Achievements

- Grade 8 Violin (Trinity College exam board).
- Gold Duke of Edinburgh (completed 2024).

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### Hobbies And Interests

- Mathematics (IMA student member/ volunteer); Programming (Java, Python, C, Haskell, MATLAB, plus typesetting in LaTeX, Markdown); Hackathons (BirmingHack 2024)
- Choral singing (12 years' experience, most recently Birmingham University Singers/ UoB Voices).
- Orchestral playing (10 years' experience, most recently Hillingdon Symphony Orchestra).
- Morris Dancing (Phoenix Morris dancer and fiddle player).
- University Societies: Gilbert & Sullivan Society, Music Society, Maths Society, Computer Science Society.

### *References*

- Galane J. Luo (Personal Academic Tutor): g.j.luo@bham.ac.uk
- Mark Elliot (ARME Project Principal Investigator): m.elliott.3@bham.ac.uk