

Peter Laszcz

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I am currently studying for a four-year Integrated Masters course in Mathematics and Computer Science at the University of Birmingham, and am in my second year. I have developed skills in programming and mathematics through both my research internship 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.

Work Experience

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

- Provided programming and mathematical modelling support for ARME, a 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.

Sustainability Research Intern at University of Birmingham School of Chemical Engineering (June-August 2024).

- Conducted computational data analysis on a mixing chamber (fluidised bed) system to aid development of a circular economy for plastics recycling.
- Wrote Python and MATLAB programs to perform particle and X-ray data analysis on the system, using the pandas and SciPy libraries to manage 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 positions at South Ruislip SVP (2021-2022) and University of Birmingham Gilbert & Sullivan 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: 2nd year student, graduating 2027.

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

- Programming (Java, Python, C, Haskell, MATLAB, plus typesetting in LaTeX, Markdown); Hackathons (BirmingHack 2024)
- Choral singing (10 years' experience, most recently Birmingham University Singers/ UoB Voices).
- Orchestral playing (9 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