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# Harry Steed

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## EDUCATION

### Post-graduate research student (ongoing)

Apr 2025 - Oct 2028 (expected)

*Cardiff University*

Mathematical modelling and simulation of cell motion, with a focus on the relationship between local substrate topography and migration dynamics.

### Master of Mathematics (Upper 2:1 with Honours)

Sep 2020 - Jun 2024

*Cardiff University*

Courses including: mathematical modelling, mathematical biology, differential equations, solid and fluid mechanics, and stochastic processes.

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## EXPERIENCE

### Graduate tutor

Oct 2025 - Current

*Cardiff University*

Facilitating weekly problem classes for undergraduate students for Foundations of Mathematics I & II and Mechanics.

### On-campus internship (Summer research project)

Jun 2023 - Aug 2023

*Cardiff University*

Researcher for an interdisciplinary project between Mathematics and Earth Science departments at Cardiff University.

- Developed a semi-automated software package for linear feature detection in biological images, replacing a previously manual process.
  - Employed signal processing techniques including wavelet and Fourier transforms for feature extraction.
  - Built an interactive user interface with buttons, sliders, and plots for non-technical researchers.
  - Designed and delivered a research presentation to a general audience at a departmental data jam.
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## EXTRACURRICULARS

### Medical Imaging Hackathon

Jun 2025 - Jun 2025

- Developed a range of motion characteristics from single-cell and scratch assay microscopy videos; work led to ongoing collaboration with researchers at Reading University on a cell tracking pipeline.

### Private Tutor

May 2018 - Jun 2023

- Managing individual students and planning personalised tutoring sessions for mathematical content ranging in difficulty from GCSE to degree level.

### Rugby (Team Captain)

Sep 2014 - Aug 2018

- Led a team of peers during training sessions and games, helping to better organise team coordination and structure.
  - Responsible for split-second tactical decisions during a game.
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## SKILLS

- Programming: Matlab, Python, L<sup>A</sup>T<sub>E</sub>X, Markdown, Git.
- Other: Stochastic simulation, spectral methods, image processing.