SHING TAK LAM

School of Mathematics and Statistics, University of Glasgow

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EDUCATION

University of Glasgow *Oct. 2024–*
Doctor of Philosophy
PhD in Complex Geometry supervised by Dr Ruadhaí Dervan. Affiliated to the Algebra, Geometry and Quantum Fields CDT.

University of Cambridge *2023–24*
Master of Mathematics *Distinction - 90%, ranked 17 out of 294*
Courses include: Abelian Varieties, Algebraic Geometry, Algebraic Topology, Analysis of PDEs, Commutative Algebra, Differential Geometry, Elliptic PDEs, Geometric Group Theory, Group Cohomology, Lie Algebras, Toric Varieties.

Part III essay titled "Quantum cohomology and the Seidel representation" supervised by Dr Jack Smith.

University of Cambridge *2020–23*
Bachelor of Arts *First class honours*
Third year courses include: Analysis of Functions, Algebraic Geometry, Algebraic Topology, Differential Geometry, Galois Theory, Linear Analysis, Number Fields, Probability and Measure, Representation Theory, Riemann Surfaces.

EXPERIENCE

Summer research internship, University of Cambridge *Jul. 2023 – Sep. 2023*
Research project supervised by Dr Alexei Kovalev about hyperkähler metrics on nilpotent coadjoint orbits. This involved adapting the results from one paper by Kronheimer to another, as well as comparing the results by Kronheimer with a paper by Kobak and Swann. I gave a presentation about the project in the Summer Research Festival in October 2023, slides and report are available upon request.

Summer research internship, University of Cambridge *Jul. 2022 – Sep. 2022*
Research project supervised by Prof Anders Hansen into the (non)computability of different optimisation algorithms, such as Linear Programming, Semidefinite Programming and Support Vector Machines. During the project, I also learned about tools in computational algebraic geometry to solve optimisation problems exactly. I gave a presentation about the project in the Summer Research Festival in October 2022, slides are available upon request.

ACTIVITIES

Mathematics subject coordinator, Student Volunteer, Cambridge Hands On Science *2023–24*
Demonstrating mathematics related experiments to children, as well as helping coordinate demonstrators for mathematics experiments at Crash, Bang, Squelch, one of the main events of the year.

AWARDS AND SCHOLARSHIPS

Royal Society Scholarship, University of Glasgow *2024–28*
Full scholarship including home fees and stipend associated to Ruadhaí Dervan's Royal Society University Research Fellowship. The difference between home and international fees was waived by the university.

Summer Research Bursary, Faculty of Mathematics, University of Cambridge *2022, 2023*
Funding from the Faculty of Mathematics for summer research projects.

College Prizes and Scholarships, Peterhouse, University of Cambridge   *2020–24*
£7400 in total across the four years for examination results. Named prizes include: John Holbrook Scholarship, Burkhill prize, Routh Prize, Klaus Roth Brize, Clemmow/B Talbot Prize.

SKILLS

Programming Languages
Programming: Haskell, Python, Julia, Mathematica, Rust
Formalisation: Lean

Languages
Native: English, Chinese, Cantonese
Basic knowledge: French, Spanish

Last updated: October 26, 2024