

Angel Yong He

Email: angel.heyongxi.2004@gmail.com | GitHub: [7angel4](#) | LinkedIn: [Angel He](#)

EDUCATION

University of Oxford – DPhil in Autonomous Intelligent Machines and Systems (EPSRC CDT) <i>Fully funded by Oxford and the Engineering and Physical Sciences Research Council (EPSRC).</i>	<i>Oct 2025 – Apr 2030</i>
University of Oxford – MSc in Advanced Computer Science (Distinction) <i>Thesis: Uncertain Concurrent Stochastic Games – Introduced the first framework for robust verification and strategy synthesis in CSGs with transition uncertainty; developed reductions, correctness proofs, and practical algorithms; implemented in PRISM-games model checker. Paper accepted at TACAS 2026. Keywords: Robust quantitative verification, Probabilistic model checking. Supervisor: David Parker.</i>	<i>Sep 2024 – Sep 2025 Apr – Sep 2025</i>
Carnegie Mellon University – School of Computer Science, Exchange (GPA 4.0, Dean’s List)	<i>Jan – May 2024</i>
University of Melbourne – BSc in Computing & Software Systems (WAM: 95.6 / GPA 4.0 eq.) <i>Top of cohort; First Class Honours; accelerated completion in 2.5 years; Melbourne Chancellor’s Scholar.</i>	<i>Jan 2022 – May 2024</i>
University of Melbourne – Extensions Program in Mathematics <i>Completed first-year undergraduate maths courses (Linear Algebra, Calculus II) in secondary school.</i>	<i>2021</i>
Melbourne Girls Grammar – Secondary Education (Dux of School, full scholarship ~AUD \$156,000)	<i>2018 – 2021</i>

RELEVANT WORK EXPERIENCE

Machine Learning Lab TA – University of Oxford, Department of Engineering Led 6-hr lab sessions (~28 students) covering support vector machines, Laplace approximation, variational autoencoders, and sampling methods. Provided technical guidance and assessed coursework.	<i>February 2026</i>
Research Assistant – University of Melbourne, School of Mathematics and Statistics Results were partially presented in the 2023 Asia-Pacific Seminar in Probability & Statistics (APSPS), as part of the (ongoing) “All In” poker sequences” project conducted by Profs. Mark Holmes & Omer Angel. All In: Give me your money! : Developed computer-aided proof of the “weak monotonicity” conjecture in the real-valued “All in” variant of the 3-player Gambler’s Ruin problem, by reducing to a constrained optimisation problem and applying mixed-integer programming . Hitting probabilities in 3-player betting games : Automated first-step analysis to attain exact elimination probabilities in two variants of 3-player Gambler’s Ruin . Found evidence of discontinuities and non-monotonicity in the probabilities. Keywords: Stochastic processes, Numerical computing, Constrained optimisation; Supervisor: Mark Holmes	<i>Aug – Oct 2024 Nov – Dec 2023</i>
Software Engineer Intern – Jane Street, Hong Kong office Successfully deployed original solutions in two projects: Configurable Markets : Supported historical & real-time studies on hypothetical markets by enabling custom specification of exchanges and markets in a feature-engineering system. Trading system optimisation : Relocated & implemented features such as process discovery, tracing, metric collection using remote procedural calls. Keywords: Inter-process communication, Concurrency, Distributed Systems	<i>May – Jul 2024</i>
Academic tutor (TA) – University of Melbourne, School of Computing and Information Systems ~50 students per subject. Conducted weekly 2-hr tutorials while studying as an accelerated full-time student. Designed, supervised, and graded exercises & assessments. Demonstrated coding. Offered head TA position. COMP20003 Algorithms and Data Structures; COMP20005 Engineering Computation COMP10002 Foundations of Algorithms	<i>Jul – Dec 2023 Jan – Jul 2023</i>

SELECTED COURSEWORK PROJECTS

• Weighted Skip Connections (GNNs) : Proposed learnable residual weights to mitigate oversmoothing in graph neural networks; evaluated on node classification benchmarks.	<i>Jan 2025 Apr 2025</i>
• SpecPool (Graph Classification) : Designed spectral-based pooling combining raw & Laplacian-smoothed embeddings, improving graph-level representations in GINs.	<i>Apr 2025</i>
• Variational Continual Learning (VCL) : Extended VCL to regression settings; introduced exponential priors with capped-KL divergence, improving sparsity-aware continual learning.	
Keywords: Graph representation learning, Geometric deep learning, Uncertainty in deep learning	

Planiwiki: Serving as the **product owner**, led the development of Planiwiki, a pedagogical website for **Planimation**, an open-source framework to visualize solutions of AI-planning problems specified in Planning Domain Definition Language (PDDL). Implemented animation profiles for various domains.
Keywords: Agile Web development, Declarative programming, AI planning; **Client:** Nir Lipovetzky

Aug – Nov 2023

OTHER ACADEMIC EXPERIENCES

International Conference on Tools and Algorithms for the Construction and Analysis of Systems (ETAPS/TACAS 2026) – Turin, Italy	Apr 2026
Society of Environmental Toxicology & Chemistry (SETAC) Asia-Pacific 14th Biennial Meeting – Nankai University	Sep 2024
Cornell, Maryland, Max Planck Pre-doctoral Research School in Computer Science (CMMRS 2024) – Max Planck Institute for Software Systems (MPI SWS), Cornell University, University of Maryland	Jul – Aug 2024
Kwong Lee Dow Young Scholars Program – University of Melbourne	2021

SCHOLARSHIPS, AWARDS & HONORS

Dean’s List with High Honors – Carnegie Mellon University, School of Computer Science	2024
Science Students Excellence Awards: Dean’s Honours List – University of Melbourne	2024
Engineering and IT Foundation Graduate Scholarship – University of Melbourne, Faculty of Engineering and Information Technology. AUD \$10,000, highest scored candidate	2024
Mathematics and Statistics Vacation Scholarship – University of Melbourne, School of Mathematics and Statistics. AUD \$2,000	2023
Airwallex Excellence in Technology Scholarship – Airwallex & University of Melbourne, Faculty of Engineering and Information Technology. AUD \$30,000	2023
Mobility Awards: USA Foundation Travelling Scholarship – University of Melbourne. AUD \$2,500	2023
IMC Trading Prize for Women in Tech – IMC Financial Markets & University of Melbourne. AUD \$2,500	2023
Melbourne Chancellor’s Scholarship – University of Melbourne. Full fee remissions + AUD \$5,000 p.a.	2022
Australian Tertiary Admission Rank (ATAR): 99.95 (top 0.05%, highest) – Victorian Certificate of Education	2022
Premier’s VCE Awards: Top All Round VCE High Achievers; Study Award in Chemistry	
Gilman Jones Scholarship – Melbourne Girls Grammar. AUD \$4,000	2021
High Distinction: ICAS Mathematics – UNSW Global, International Competitions and Assessments for Schools	2018
High Distinction: Australian Mathematics Competition; Noether Mathematics Challenge for Young Australians; Mathematics Challenge for Young Australians – Australian Mathematics Trust	2017 – 2019

EXTRA-CURRICULAR

CS50x Puzzle Day – Harvard University. Led a team of 4 to solve 9/9 puzzles	2022
Flute – Australian Music Exams Board. Grade 5, Soloist, Intermediate Flute Ensemble	2016 – 2022
Taekwon-do: Black belt 1st Dan – International Taekwon-do Federation	2009 – 2019
1st Place: Junior Female Patterns & Special Techniques – 2014 Open Junior & 2015 United ITF Victorian Championships	
Volunteer Assistant Instructor – North Melbourne Community Center	

RELEVANT SKILLS

Programming: C, Java, Python (PyTorch, NumPy, pandas, scikit-learn), OCaml, JavaScript, PDDL, HTML, Haskell, R.
Research: Developing interests in generative/representation learning and uncertainty-aware ML, alongside work in automated verification & control of probabilistic systems using stochastic modelling, statistical analysis, and RL methods.
Mathematics: Probability & stochastic processes, statistics, linear algebra, calculus.
Teamwork: Strong leader; independent team worker; quick self-learner; active external- & internal-facing communicator.