

Rahul Marchand

Oxford, United Kingdom | rahul.marchand@new.ox.ac.uk | 

Education

- University of Oxford**, MEng in Engineering Science (ongoing) Oct 2023 – Jun 2027
- Distinction in preliminary examinations
- St Paul's School** Sep 2013 – Jul 2023
- A*A*A*A*A* (Maths, Further Maths, Physics, English, EPQ); 11 9s at GCSE
 - Haldane Prize for essay on the viability of Artificial General Intelligence, John Colet Junior and Senior scholar

Publications

- Quantifying Frontier LLM Capabilities for Container Sandbox Escape**   Mar 2026
[ICML 2026 Oral]
- Worked with researchers at the UK AI Security Institute to build benchmark suite of 18 CTF levels for evaluating AI agents on container escape scenarios across diverse attack surfaces. Built automated pipeline for VM image builds and vulnerable kernel compilation. First-author paper accepted as an Oral at ICML 2026.
- Action-Factored Multi-Agent RL for Scalable Quantum Device Tuning**  Jul 2026
- Oxford University Natalia Ares Research Group: Built swarm of PPO RL agents for simultaneous tuning of plunger and barrier gate voltages across arbitrary N-dot arrays. Co-first authored, under review at NeurIPS 2026.
- QArray+: A Physics-Informed GPU-Accelerated Simulator for Quantum Dot Arrays**  Sep 2026
- Oxford University Natalia Ares Research Group: Built fast open-source quantum dot simulator to generate training data for automated tuning algorithms. Fourth author manuscript, under review.
- End-to-End Analysis of Charge Stability Diagrams with Transformers**  Aug 2025
- Oxford University Natalia Ares Research Group: Applied transformer architecture to automate analysis of charge stability diagrams in spin qubit systems. Co-first authored manuscript published on arXiv, under review at Nature Communications Physics.

Work Experience

- Conductor Quantum, Research Intern** June 2025
- Two-week internship developing ML pipeline for extracting charging energies and lever arms from quantum dot data.

Courses

- ARBox3, Oxford AI Safety Initiative** Jan 2026
- Completed 2-week mechanistic interpretability bootcamp based on ARENA curriculum.
 - Prepared and delivered the RL lecture series (my slides .
- Making A Difference, Oxford Careers Service** Oct – Dec 2025
- Course on working in the charity sector; 4-week placement with Abalobi developing restaurant partnership strategy.
- AISAA, AIMS CDT** Oct 2025
- 5-day AI Safety & Alignment course covering alignment foundations, frontier methods, and interpretability.

Volunteering and Sports

- Oxford Hub/Wood Farm Primary School** Jan 2024 –
- 90+ hours tutoring; initiated and organised science workshops for 60 children; started and running Coding club.
- Curry Runners** May 2024 –
- Ran food redistribution program for homeless; scaled to 600+ meals/year, grew team 15 to 25, secured £3k funding.
- Oxford University Varsity Rowing Team** Sep 2023 – Apr 2025
- OUBC coxswain for Lightweight Boat Races 2024 and 2025; 30-hour weekly training.