

Daattavya Aggarwal

PHD IN AI FOR MATHEMATICAL DISCOVERY, UNIVERSITY OF CAMBRIDGE

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Interested in AI guided mathematical discovery

Education

University of Cambridge

PHD IN AI FOR MATHEMATICAL DISCOVERY

Cambridge, UK

Jan. 2024 - Jan. 2028

Mathematical Institute, University of Oxford

MSC. MATHEMATICAL AND THEORETICAL PHYSICS

Oxford, UK

Oct. 2020 - Jun. 2021

Indian Institute of Technology, Roorkee

B.TECH IN ENGINEERING PHYSICS

Roorkee, India

July. 2016 - May. 2020

- CGPA: 8.738/10, **First Division with Distinction**

Research Directions

- Developing methods for AI guided maths, with an emphasis on discovering new concepts and conjectures and applications in active research problems.
- Previous work in topology, geometry, number theory and quantum computing.

Selected Publications and Preprints

- [1] **Aggarwal, D.**, Kim, O., Ek, H. C. & Mishra, C. (2026) "Discovering mathematical concpets through a multi-agent system"
arXiv preprint: arXiv:2603.04528
- [2] Mirjanić, V., **Aggarwal, D.** & Mishra, C. (2025) "A remark on weighted average multiplicities in prime factorisation"
arXiv preprint: arXiv.2510.06993
- [3] **Aggarwal, D.**, He, Y.-H., Heyes, E., Hirst, E., Sá Earp, H. N. & Silva, T. S.R. (2024). "Machine Learning Sasakian and G_2 topology on contact Calabi-Yau 7-manifolds". *Physics Letters B*, 850, 138517. doi: 10.1016/j.physletb.2024.138517
- [4] Gangopadhyay, S., Poonia, V. S., **Aggarwal, D.** & Parekh, R. (2019). "Generalized Boolean Functions and Quantum Circuits on IBM-Q". *ICCCNT 2019*, pp. 1-6. doi: 10.1109/ICCCNT45670.2019.8944437
- [5] **Aggarwal, D.**, Raj, S., Behera, B.K. & Panigrahi, P.K. (2018). "Application of quantum scrambling in Rydberg atom on IBM quantum computer".
arXiv preprint: arXiv.1806.00781

Conferences and Talks

Apr. 2026	DANGER: Data, Numbers and Geometry - Talk on “Discovering mathematical concepts through a multi-agent system”	BIRS, Banff
Feb. 2026	AlxMathematics: Talk on “Discovering mathematical concepts through a multi-agent system”	ICMS, Edinburgh
Oct. 2025	ML retreat: Talk on “Data-driven mathematics”	University of Cambridge
Aug. 2025	Attended workshop: AI Meets Mathematics	Imperial College London
Sep. 2024	Attended conference: Geometry from the model theorist’s point of view	University of Oxford
Feb. 2024	Wolfson XML: “AI for Mathematical Discovery”	Wolfson College, Oxford
Dec. 2023	Poster on “Machine Learning Sasakian and G_2 topology on contact Calabi-Yau 7-manifolds” at neurips@cam	University of Cambridge
Oct. 2023	Talk on “Machine Learning G_2 manifolds”	Computer lab, Cambridge
Jan. 2019	Poster on “Boolean Functions for Quantum Circuits” at IndoQuant	IIT Hyderabad

Teaching & Supervision

2023-2024	Supervised an MPhil in Advanced Computer Science dissertation: Deepto Choudhary	University of Cambridge
2026	Led supervisions for IB: Prolog	University of Cambridge
2025	Led supervisions for IA: Machine Learning and Real-World Data	University of Cambridge
2024	Led supervisions for IB: Artificial Intelligence	University of Cambridge

Academic Achievements & Grants

2023	UKRI Grant: Covering my position as a research assistant and PhD student at the Computer Lab	University of Cambridge
2020	Felix Scholar: Awarded a full scholarship for postgraduate study	University of Oxford

Professional Appointments

Sep 2023 - Sep 2026	Research assistant: Department of Computer Science and Technology	University of Cambridge
Jan 2023 - Aug 2023	Junior Data Scientist: Machine learning for digital biomarkers in neurology	Kneu Health, London
Aug 2022 - Dec 2022	Research Data Scientist: Parkinson’s Disease Diagnostics	Oxford Parkinson Disease Centre
Dec 2019 - Jan 2020	Visiting Research Assistant: Adiabatic Quantum Computation	Information Sciences Institute, USC

Extracurricular Activities

2025 - Present	MCR Treasurer, Girton College: Representing the postgraduate student body	University of Cambridge
Apr 2021	Team Captain, Wolfson Oxford: Represented the college on the BBC quizzing show, <i>University Challenge</i> .	Salford, UK
May 2017 - Mar 2018	Member, Team Robocon IITR: Won “Best Innovative Design” and finished 7th/107 at ABU Robocon	Roorkee, India