

Peter Yang

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EDUCATION

| | |
|--|---|
| University of Cambridge <i>PhD in Quantum Information/Computing Prof Crispin Barnes/Dr David Arvidsson</i> | Peterhouse, Cambridge, England Jan 2025 – |
| University of Cambridge <i>BA/Master of Science in Physics First Class</i> | Peterhouse, Cambridge, England Oct 2020 – Jun 2024 |

RESEARCH EXPERIENCE

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|---|---|
| Tsinghua University <i>Research Student</i> | Prof.Jin-Peng Liu Summer 2025 – Now |
| Haiqu <i>Research Intern</i> | Richard East Summer 2025 |
| Department of Computer Science, University of Cambridge <i>Research Student</i> | Dr Prakash Murali Summer 2024 – Now |
| Hitachi Laboratory, University of Cambridge <i>Research Graduate</i> | Dr David Arvidsson-Shukur Oct 2023 – June 2024 |
| Yusuf Hamied Department of Chemistry, University of Cambridge <i>Research Undergraduate</i> | Dr.Alex Thom July 2023 – Sep 2023 |
| Coherent Quantum Lab, University of Cambridge <i>Research Undergraduate</i> | Dr.Helena Knowles , Cavendish Oct 2022 – Mar 2023 |
| DAMTP, University of Cambridge <i>Research Undergraduate</i> | Dr.Sergii Strelchuk , Centre for Mathematical Sciences Jan 2023 – May 2023 |
| AMOP group, University of Cambridge <i>Research Undergraduate</i> | Prof.Mete Atature , Cavendish, Prof.Dorian Gangloff , Oxford Mar 2023 – May 2023 |
| MRI group, University of Cambridge <i>Research Undergraduate</i> | Prof.Chris Rodgers , Wolfson Brain Imaging Centre Agu 2022 – Oct 2022 |

AWARDS & ACHIEVEMENTS

Hitachi studentship:Industrial PhD Scholarship
The Henry Cavendish Scholarship in Natural Sciences for 2023/24:Nature Science scholarship
Bruckmann Award 2023:Nature Science scholarship
Peterhouse College Scholarship 2023:Peterhouse Scholarship
Donald Higham Award 2022:Peterhouse Scholarship

WORK

- [1] **Yang, S.**, & Liu, J. P. (2025). Circuit-Efficient Randomized Quantum Simulation of Non-Unitary Dynamics with Observable-Driven and Symmetry-Aware Designs. arXiv preprint arXiv:2509.08030.
- [2] Thio, J. J., **Yang, S.**, De Bièvre, S., Barnes, C. H., & Arvidsson-Shukur, D. R. (2025). Kirkwood-Dirac Nonpositivity is a Necessary Resource for Quantum Computing. arXiv preprint arXiv:2506.08092.
- [3] Yuan, H., **Yang, S.**, & Barnes, C. H. (2025). Iterative quantum optimisation with a warm-started quantum state. arXiv preprint arXiv:2502.09704.
- [4] **Yang, S.**, & Murali, P. (2024). Understanding the Scalability of Circuit Cutting Techniques for Practical Quantum Applications. arXiv preprint arXiv:2411.17756.
- [5] **Yang, S.** (2023). Randomized term grouping over physical law on digital quantum simulation. arXiv preprint arXiv:2309.14378.