

## Research Areas and Interests

- Quantum algorithms and statistical learning theory; with an emphasis on learning w.r.t. various noise models, and proving theoretical bounds for convergence, generalization error, and speedups.

## Education

- 2019 – PRESENT
- Ph.D.** in Computer Science and Engineering.  
Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi).  
**Advisor:** Prof. Debajyoti Bera.  
Thesis title: *Designing Quantum Learning Algorithms for Classical Objects*. (Submitted)
- 2013 – 2017
- B.Tech.** in Computer Science and Engineering.  
Maulana Abul Kalam Azad University of Technology, West Bengal (MAKAUT).  
GPA: 8.10/10.

## Research Visits

- AUG 24– OCT 24
- ACMU, Indian Statistical Institute**, Kolkata.  
**Host:** Prof. Sourav Chakraborty.
- JUL 23– SEP 23
- Czech Technical University**, Prague.  
**Host:** Prof. Jakub Marecek, Prof. Vyacheslav Kungurtsev.

## Research Publications

### Journal Articles

- 1 **S. Chatterjee**, R. Bhatia, P. S. Chani, and D. Bera, “Quantum boosting using domain-partitioning hypotheses,” *Quantum Mach. Intell.*, vol. 5, no. 2, pp. 1–20, 2023. [DOI: 10.1007/S42484-023-00122-3](#).

### Conference Proceedings

- 1 **S. Chatterjee**, M. Mukherjee, and A. Sethi, “Generalization bounds for dependent data using online-to-batch conversion,” in *Proceedings of the 28th International Conference on Artificial Intelligence and Statistics (AISTATS)*, accepted, 2025.
- 2 **S. Chatterjee**, T. SAPV, and D. Bera, “Efficient quantum agnostic improper learning of decision trees,” in *Proceedings of the 27th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2024.  
[URL: https://proceedings.mlr.press/v238/chatterjee24a.html](https://proceedings.mlr.press/v238/chatterjee24a.html).

### Manuscripts and Short Papers

- 1 **S. Chatterjee** and D. Bera, *Applying the quantum alternating operator ansatz to the graph matching problem*, Extended Abstract at the The 20th Asian Quantum Information Science (AQIS) Conference, 2020. arXiv: 2011.11918. [URL: https://arxiv.org/abs/2011.11918](https://arxiv.org/abs/2011.11918).

## Invited and Contributed Talks

Mar 2025	Quantum Computing Workshop by Edunautic, IIT Delhi. <i>Full day workshop from fundamentals to hands-on instruction.</i>
Jan 2025	QAC 2025 symposium, C-DAC and DIAT Pune. <i>Modern Algorithmic Primitives in Quantum Computing.</i>
Oct 2024	ACMU seminar, ISI Kolkata. <i>Generalization bounds for dependent data using online-to-batch conversion.</i>
July 2024	Recent Trends in Algorithms Workshop 2024. <i>Efficient quantum agnostic improper learning of decision trees.</i>
June 2024	ACMU seminar, ISI Kolkata. <i>Efficient quantum agnostic improper learning of decision trees.</i>
February 2024	Quantum Computing Semester, Chennai Mathematical Institute. <i>Quantum Algorithms for Linear Algebra.</i> <i>Block Encodings and Linear Combination of Unitaries.</i>
September 2023	University of Latvia. <i>Efficient quantum agnostic improper learning of decision trees.</i>
	IDA Seminar, Czech Technical University. <i>Efficient quantum agnostic improper learning of decision trees.</i>
November 2022	The 6th Quantum Techniques in Machine Learning (QTML 2023) conference. <i>Quantum boosting using domain-partitioning hypotheses.</i>
March 2022	Theory Seminar, Indian Institute of Information Technology Delhi. <i>Quantum boosting using domain-partitioning hypotheses.</i>
December 2020	Faculty Development Programme, JNTU Anantapur. <i>Quantum Machine Learning.</i>

## Teaching

### Instructor

Advanced Quantum Algorithms	Took 3 lectures at the Quantum Computing Semester, <b>Chennai Mathematical Institute</b> . Topics included Quantum algorithms for linear algebra, Block Encodings. [FEBRUARY 2024]
Systems Refresher Module	Took 3 lectures for undergraduate and master's students at IIIT-Delhi. Topics included C programming and Operating systems. [AUGUST 2022]

### Teaching Assistantship

Theory of Computation	Winter 2020, Winter 2021, Winter 2024.
Modern Algorithm Design	Monsoon 2020, Monsoon 2021.
Introduction to Quantum Computing	Winter 2023.
Data Structures and Algorithms	Summer 2022.



## Miscellaneous

### Awards and Achievements



AUG 24	IIITD Dean's List for Best Teaching Assistant (Theory of Computation).
FEB 20	Runners Up, IBMQ Awards - Teach Me Quantum 2019.

## Miscellaneous (continued)





### Reviewing

- Conference<sup>1</sup>     NeurIPS'24, ICLR'25\*, AISTATS'25\*, ICML'25\*.
- Journal     Scientific Reports (2024), Quantum (2024, 2025).

### Mentoring

- JAN 24 – JAN 25     Neeshu Rathi,  
Ph.D. student at IIT- Roorkee.
- JAN 24 – present     Alhad Sethi,  
BTech student at IIIT- Delhi.




### Organisation

- Workshops     Co-organised (only student organiser) and Webadmin for the QISE workshop at FSTTCS 2021.
- Seminars organized     Talks on Quantum Computing at IIIT-D.  
                                  Ketchup talks at IIIT-D.  
                                  Theory Reading Group talks at IIIT-D.

### Research and Travel Grants

- APR 24     AISTATS 2024 Registration Grant.

## Industry Experience

- SEP 17 – MAR 19     **Staff Consultant**, Oracle Financial Services Software Limited.
- FEB 17 – APR 17     **Systems Engineering Intern**, Infosys Limited.
- JUN 16 – JUL 16     **Data-Science Intern**, AlCircle Pte Ltd.

## References

Available on Request

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<sup>1</sup>\* indicates invited reviewer.