

Sagnik Chatterjee

C-214, Old Boy's Hostel, Indraprastha Institute of Information Technology Delhi, 110020

www.iiitd.edu.in/~sagnikc sagnikc@iiitd.ac.in [@chatsagnik](https://twitter.com/chatsagnik) [/chatsagnik](https://github.com/chatsagnik) [DBLP](#) [Scholar](#)

Biography

Affiliation: Doctoral student in the [BraQIIIT](#) lab at IIIT-Delhi.

Advisor: [Prof. Debajyoti Bera](#).

Research Interest: Quantum Computing, Quantum Complexity Theory, Statistical Learning Theory.

Education

JUL'19 - present Ph.D. CSE	Indraprastha Institute of Information Technology, Delhi (IIITD) CGPA: 8.78
AUG'13 - AUG'17 B.Tech CSE	Maulana Abul Kalam Azad University of Technology, Kolkata (MAKAUT; formerly WBUT) CGPA: 8.10

Research Visits

JUL-SEP '23	IDA research group, Czech Technical University, Prague (CTU) Hosted by Jakub Marecek and Vyacheslav Kungurtsev.
-------------	--

Research

Conference Publications

- [c1](#) **Efficient Quantum Agnostic Improper Learning of Decision Trees.**
Sagnik Chatterjee, Tharmashastha SAPV, and Debajyoti Bera.
27th International Conference on Artificial Intelligence and Statistics (AISTATS 2024).
- 27th Conference on Quantum Information Processing (QIP 2024). [Poster](#)

Journal Publications

- [j1](#) **Quantum Boosting using Domain-Partitioning Hypotheses.**
Sagnik Chatterjee, Rohan Bhatia, Parmeet Singh Chani, and Debajyoti Bera.
Quantum Machine Intelligence 5, 33 (2023). [DOI](#).
- 6th Quantum Techniques in Machine Learning (QTM 2022). [Talk](#)
- 25th Conference on Quantum Information Processing (QIP 2022). [Poster](#)

Preprints

- [p2](#) **Quantum Solutions to the Privacy vs. Utility Tradeoff.**
Sagnik Chatterjee and Vyacheslav Kungurtsev.
- [p1](#) **Applying the Quantum Alternating Operator Ansatz to the Graph Matching Problem.**
Sagnik Chatterjee and Debajyoti Bera.
AQIS'20; QIP'21. [Poster](#)

Invited Talks

Quantum Algorithms for Linear Algebra.	Quantum Computing Semester, CMI	FEB'24
Quantum Solutions to the Privacy vs. Utility Tradeoff.	Ketchup Talk, IIIT-D	SEP'23
Efficient Quantum Agnostic Improper Learning of Decision Trees.	University of Riga IDA seminar, CTU	SEP'23 SEP'23
Quantum Boosting using Domain-Partitioning Hypotheses.	IIIT-D CSE Seminar IIIT-D Theory Seminar	FEB'23 MAR'22
Hoffman's Chromatic Number Lower Bound.	IIIT-D Spectral Theory Reading Group	JUN'23
Spectral properties of Random Graphs.	IIIT-D Spectral Theory Reading Group	JUN'23

Improved Quantum Query Upper Bounds via Decision Trees.	IIIT-D Theory Reading Group	MAY'23
Applying QAOA+ to the Graph Matching Problem.	QISE 21 Workshop (Online)	DEC'21
Quantum Shallow Circuits.	T-talk at Évariste, IIIT-D	OCT'20
Quantum Algorithms for solving Linear Systems of Equations.	IAS 4th CSE Winter School	DEC'19
Quantum Machine Learning.	FDP at JNTU, Anantapur (Online) Delhi Quantum Computing Meetup	DEC'20 FEB'20

Teaching

CMI QC Semester	2024	Instructor	Quantum Algorithms for Linear Algebra
IIIT-D Winter Semester	2020, 2021, 2024	Teaching Assistant	Theory of Computation
IIIT-D Winter Semester	2023	Teaching Assistant	Introduction to Quantum Computing
IIIT-D Refresher Module	2022	Instructor	Introduction to C Programming
IIIT-D Summer Semester	2022	Teaching Assistant	Data Structures and Algorithms
IIIT-D Monsoon Semester	2020, 2021	Teaching Assistant	Modern Algorithm Design

Workshops and Schools

IISc Bangalore	JTG/IEEE ITSoc Summer School 2023
FSTTCS'21 (Online)	Quantum Information Science and Engineering (QISE) 2022
IIIT Delhi	Indo-German Spring School on Algorithms for Big Data 2020
ISI Kolkata	Workshop on Boolean Functions 2020
IAS Jerusalem	The 4th Advanced Winter School in Computer Science and Engineering 2019

Selected Extra-Curricular Activities

AUG'22-	Organizer and coordinator for Theory Reading Group talks, at IIIT Delhi.
AUG'22-	Organizer and coordinator for Ketchup talks, at IIIT Delhi.
DEC'22	https://twitter.com/KetchupIIITD .
DEC '21	Organizer for the QISE'21 workshop. https://acm-goa.github.io/QISE/ .
FEB '20	Student organizer for the Indo-German Spring School on Algorithms for Big Data 2020, at IIIT-Delhi. https://sites.google.com/view/abd2020/home .
FEB '20	Organized the first India Quantum Computing Meetup in New Delhi. https://sites.google.com/iiitd.ac.in/indiaqcmeetup/home .

Industry Experience

NOV '18-MAR '19	Oracle Financial Services Software Limited
SEP '17-OCT '18	<u>Staff Consultant</u> : Developed data models and automated report generation during EOD operations. <u>Associate Consultant</u> : Customized the business logic of our core product FCUBS.
FEB'17-MAY'17	Infosys Limited (Systems Engineering Intern)
JUN'16-JUL'17	AlCircle Pte Ltd (Data-Science Intern)

References

Dr. Debajyoti Bera Email: dbera@iiitd.ac.in	Associate Professor, Department of Computer Science, Indraprastha Institute of Information Technology (IIIT) Delhi
Dr. Vyacheslav Kungurtsev Email: kunguvya@fel.cvut.cz	Researcher, Faculty of Computer Science and Engineering (FEL) Czech Technical University (CTU), Prague
Dr. Manuj Mukherjee Email: manuj@iiitd.ac.in	Assistant Professor, Department of Electrical Engineering Indraprastha Institute of Information Technology (IIIT) Delhi