

Sagnik Chatterjee

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Current Position and Research Interests

I am a Ph.D. candidate at **IIIT Delhi**, advised by **Dr. Debajyoti Bera**. My main research interests include quantum algorithms, optimization, and learning theory.

Research (Selected)

OCT'22	Efficient Quantum Agnostic Improper Learning of Decision Trees Submitted. Pre-print at https://arxiv.org/abs/2210.00212 .
OCT'21	Quantum Boosting using Domain-Partitioning Hypotheses Presented at QTML'22. Poster presented at QIP'22 and accepted at Young Quantum'23, HRI. Pre-print at https://arxiv.org/abs/2110.12793 .
NOV'20	Applying the Quantum Alternating Operator Ansatz to the Graph Matching Problem Poster presented at QIP'21. Extended abstract accepted at AQIS'20. Pre-print at https://arxiv.org/abs/2011.11918 .

Education

JUL '19 to present	Indraprastha Institute of Information Technology, Delhi Doctoral Student (Ph.D.) in <i>Computer Science</i>
AUG '17	Maulana Abul Kalam Azad University of Technology, Kolkata Bachelor of Technology in <i>Computer Science and Engineering</i> (8.10/10)

Teaching Experience

Summer 2022	Teaching Assistant for Data Structures and Algorithms course.
Winter 2020, 2021	Teaching Assistant for Theory of Computation course.
Monsoon 2020, 2021	Teaching Assistant for Modern Algorithm Design course.

Selected Co-Curricular Activities

MAR '22	Gave an invited talk on quantum boosting algorithms at the IIT-Delhi theoretical CS seminar. Slides at https://bit.ly/3MkjN91 .
JAN '20	Received 2 nd place in the IBM Q Awards , Teach Me Quantum category. https://bit.ly/ibmqawards20
DEC '19	Selected to attend the 4th Winter School in Computer Science and Engineering (on The Mathematics of Quantum Computation) organized by the Israel Institute for Advanced Studies , at the Hebrew University of Jerusalem. https://ias.huji.ac.il/SchoolCSE4 .

Selected Extra-Curricular Activities

AUG '22	Organizer and coordinator for Ketchup talks, at IIIT Delhi. https://twitter.com/KetchupIIITD .
DEC '21	Only grad student to be part of the organizing committee for QISE'21 workshop (co-located with FSTTCS). https://acm-goia.github.io/QISE/ .

Industry Experience

NOV '18 to MAR '19	Oracle Financial Services Software Limited Staff Consultant: Developed data models and automated report generation during EOD operations. Bank successfully went live in December 2018.
SEP '17 to OCT '18 <i>Technology Stack</i>	Associate Consultant: Customized the business logic of our core product FCUBS. FLEXCUBE, BI-Publisher, JAVA, JSP, Weblogic, JS, SOAP, Spring, Hibernate, Oracle 12c, SQL.
FEB'17 TO MAY'17 <i>Technology Stack</i>	Infosys Limited Systems Engineering Intern (Full Stack Developer): Agile methodology. JAVA, Weblogic, Angular, REST, Spring, Hibernate ORM, Oracle 12c, SQL, PL/SQL.
SUMMER 2016 <i>Technology Stack</i>	AlCircle Pte Ltd Data-Analyst Intern (Python Application Developer): Created an application to source content for the editorial team. Crawler+Database Insertion+Automated Updates. Python, MySQL, REST.

References

Dr. Debajyoti Bera	Associate Professor, Department of Computer Science, Indraprastha Institute of Information Technology (IIIT) Delhi Email: dbera@iiitd.ac.in
Dr. Rohit Vaish	Assistant Professor, Department of Computer Science, Indian Institute of Technology (IIT) Delhi Email: rvaish@iitd.ac.in
Dr. Syamantak Das	Assistant Professor, Department of Computer Science, Indraprastha Institute of Information Technology (IIIT) Delhi Email: syamantak@iiitd.ac.in
Mr. Vikas Devnani	Executive Director and Business Head AlCircle.com at Unimark International Pvt. Ltd. Email: vdevnani@alcircle.com

Detailed list of Co-Curricular Activities

MAR '22	Gave an invited talk on quantum boosting algorithms at the IIT-Delhi theoretical CS seminar. Slides at https://bit.ly/3MkjN91 .
DEC '20	Gave a talk on Quantum Machine Learning at a Faculty Development program hosted by Jawaharlal Nehru Technological University, Anantapur. Slides at https://bit.ly/qmlslides .
FEB '20	Selected to attend a workshop on Sensitivity, Query Complexity, Communication Complexity and Fourier Analysis of Boolean Function organized by the Indian Statistical Institute , Calcutta. https://bit.ly/isiworkshop20 .
JAN '20	Received 2 nd place in the IBM Q Awards , Teach Me Quantum category. The Teach Me Quantum category awards the best interactive self-paced tutorial (single or multiple Jupyter Notebooks) that explains a specific focus topic in quantum computing using Qiskit and the IBM Q Experience. https://bit.ly/ibmqproject , https://bit.ly/ibmqawards20 .
DEC '19	Selected to attend the 4th Winter School in Computer Science and Engineering (on The Mathematics of Quantum Computation) organized by the Israel Institute for Advanced Studies , at the Hebrew University of Jerusalem. https://ias.huji.ac.il/SchoolCSE4 .
DEC '19	Attended a workshop on Complexity in Algorithmic Game Theory at IIT Bombay. https://sites.google.com/view/cagt-2019/ .
2016	Represented MAKAUT at ACM-ICPC Amritapuri Regionals 2016.

Detailed list of Extra-Curricular Activities

AUG '22	Organizer and coordinator for Ketchup talks, at IIIT Delhi. https://twitter.com/KetchupIIITD .
DEC '21	Only grad student to be part of the organizing committee for QISE'21 workshop (co-located with FSTTCS). https://acm-go.github.io/QISE/ .
FEB '20	Helped organize 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 Quantum Computing Meetup in New Delhi, at IIIT-Delhi in association with the IBM advocates of India. https://bit.ly/indiaqc .
APR '14	Achieved 3rd Position, East Zone in Essay Competition conducted by United Nations Information Centre India and Bhutan .
2012	Prefect of Don Bosco School, Bandel.