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Shouvanik Chakrabarti

Ph.D. Student

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Research Interests

Quantum Algorithms, Quantum Information, Theory of Computation, Theoretical Machine Learning, Deep Learning

Education

08/2017–present **Ph.D. in Computer Science**, *University of Maryland*, College Park, Maryland, *GPA : 4.0*.

08/2017–05/2019 **M.S. in Computer Science**, *University of Maryland*, College Park, Maryland, *GPA : 4.0*.

07/2013–05/2017 **B.Tech. (Honors) in Computer Science and Engineering, Minor in Physics**, *Indian Institute of Technology*, Bombay, India, *GPA – 9.05/10*.

Awards

2017-18 Dean's Fellowship at the University of Maryland, College Park

2013 Silver Medal at the 44$^{\text{th}}$ International Physics Olympiad, Copenhagen, Denmark

2013 Gold Medal at the Indian National Physics Olympiad

2013 Gold Medal at the Indian National Astrophysics Olympiad

2012 Awarded KVPY scolarship by the Indian Institute of Science

2010 Gold Medal at the Indian National Astronomy Olympiad

2010 Gold Medal at the Indian National Junior Science Olympiad

Publications

Peer-reviewed Conferences with Proceedings

- **Shouvanik Chakrabarti**, Yiming Huang, Tongyang Li, Soheil Feizi, and Xiaodi Wu, *Quantum Wasserstein Generative Adversarial Networks*, To appear in the 33^{rd} Annual Conference on Neural Information Processing Systems (NeurIPS 2019).
- Tongyang Li, **Shouvanik Chakrabarti** and Xiaodi Wu, *Quantum algorithms for training linear and kernelized classifiers.* In the proceedings of the 36th International Conference on Machine Learning (ICML 2019). Also available at arXiv:1904.02276.

Peer-reviewed Conferences without Proceedings

- **Shouvanik Chakrabarti**, Andrew M. Childs, Tongyang Li, and Xiaodi Wu, *Quantum algorithms and lower bounds for convex optimization*, at the 22th Conference on Quantum Information Processing (QIP 2019). Also available at arXiv: 1809.01731.

Manuscripts

- **Shouvanik Chakrabarti**, Andrew Childs, Shih-han Hung, Tongyang Li, Chunhao Wang and Xiaodi Wu, *Quantum algorithm for estimating volumes of convex bodies*, manuscript, 2019. Also available at arXiv: 1908.03903.

Experience

Vocational

05/2016–07/2016 **Summer Research Intern**, Xerox Research Center India, Bangalore, India.
Development of routing algorithms, specifically involving the prize collecting Traveling Salesman Problem on restricted metric spaces.
Advisor: Dr. Koyel Mukherjee, Senior Research Scientist

04/2015–07/2015 **Summer Intern**, Evolgence Telecom Systems Pvt. Ltd., Hyderabad, India.
Development of proprietary modules for an open-source SIP server, Kamailio. Added group and offline messaging features for SIP messages.
Advisor: Manmohan GK, Chief Technical Officer

Teaching

Fall 2018 **Teaching Assistant**, CMSC657, Quantum Information and Computation, University of Maryland.
Held office hours, participated in grading, delivered stand-in lectures, participated in creation of lecture notes.

Spring 2018 **Teaching Assistant**, CMSC457, Quantum Information and Computation, University of Maryland.
Held office hours, participated in grading, delivered stand-in lectures.

Fall 2017 **Teaching Assistant**, CMSC250, Discrete Structures, University of Maryland.
Led discussion section, participated in grading.

Spring 2017 **Teaching Assistant**, CS218, Computer Networks, Indian Institute of Technology Bombay.
Held office hours, participated in grading.

Fall 2016 **Teaching Assistant**, CS251, Software Systems Lab, Indian Institute of Technology Bombay.
Designed assignments, held office hours. Received departmental best TA award.

Spring 2015 **Teaching Assistant**, PH108, Introduction to Electromagnetism, Indian Institute of Technology Bombay.
Led discussion section, participated in grading.

Fall 2014 **Teaching Assistant**, PH107, Quantum Mechanics, Indian Institute of Technology Bombay.
Led discussion section, participated in grading.