ARGHYA CHAKRABORTY

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EDUCATION

Pursuing Integrated PhD in Computer Science — **Tata Institute of Fundamental Research** — 2017-Present
Advisor : Prof. Prahladh Harsha

Bachelor of Mathematics (B.Math) — **Indian Statistical Institute** — 2014-2017

RESEARCH INTERESTS

Broadly my interests lie in the area of complexity theory and algorithms.

- I have been looking at online algorithms - modifications of the online facility location problem and online bipartite matchings. I have also been working on online correlated selection (OCS), and edge weighted online bipartite matching, in the free disposal setting.
- I am also currently studying fairness notions in online bipartite matching.
- More recently, I am interested in learning-assisted online algorithms, where advice from learning algorithms is used to predict the input in order for algorithms to go beyond the worst case.

PUBLICATIONS

- [Arghya Chakraborty and Rahul Vaze] Online facility location with weights and congestion

  (arXiv:2211.11961) (Published in FSTTCS 2023) (Additionally presented at ACM India: ARCS 2025)
- [Amey Bhangale, Arghya Chakraborty and Prahladh Harsha] Optimal Online Bipartite Matching in Degree-2 Graphs

  (arXiv:2511.16025) (Published in ISAAC 2025) (Additionally presented at TAO 2025)

ACADEMIC ACTIVITIES

- I have done courses on algorithms, data structures, automata theory and numerical methods during my bachelors.
- In TIFR, I have done courses on algorithms, online algorithms, advanced automata theory, game theory, complexity theory, combinatorial optimization, pseudorandomness and mathematical foundations of computer science.
- For my master's project, I had done a report on *Hypercontractivity and Small-set Expansion* and on the *Characterization of Reed Muller Codes*.
- I have been a teaching assistant for the course "Toolkit for Theoretical Computer Science (2022-2023)", under the instruction of Prof. Piyush Srivastava and Prof. Prahladh Harsha.
- Reviewed papers for ICALP, 2023.

INTERNSHIPS

I had done an internship at Indian Institute of Science (IISc) under the guidance of Dr. Amit Deshpande and Prof. Anand Louis where we had looked at various alternatives to estimating the mean of an unknown distribution.

I had also visited Prof. Raghu Meka at UCLA for a project from 15th March 2024 to 15th June 2024. This project was on Online Bipartite Matching.

CONFERENCES ATTENDED

- FSTTCS 2018, 2019, 2020, 2022, 2023, 2024
- Sensitivity, Query Complexity, Communication Complexity and Fourier Analysis of Boolean Function 2020
- Recent Trends in Algorithms 2023, 2024
- JTG Summer School 2025
- ISAAC 2025
- TAO 2025 (Workshop post FOCS 2025)

SUMMER SCHOOL

I had attended the *Bernoulli Center Summer School on Modern Trends in Combinatorial Optimization* in EPFL, Lausanne, Switzerland in 2022.