

## RESEARCH INTERESTS

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Sublinear Algorithms, Computational Linear Algebra, Online Learning, Caching

## EDUCATION

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### University of Massachusetts Amherst

2020–Current

Ph.D. in Computer Science, GPA: 4.0/4.0

– Advisor: Prof. Cameron Musco

### Indian Statistical Institute

2015–2017

Master of Technology in Computer Science, Final Aggregate: 85.90 % (First Class with Distinction)

### Jadavpur University

2009–2013

Bachelor of Engineering in Mechanical Engineering, GPA: 7.86/10.00 (First Class)

## PUBLICATIONS AND PREPRINTS

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(\*): alphabetical ordering

1. **Sublinear Time Eigenvalue Approximation via Random Sampling.** (\*) Rajarshi Bhattacharjee, Gregory Dexter, Petros Drineas, Cameron Musco and Archan Ray. *Under submission. Preprint at* [\[arxiv\]](#)
2. **Fundamental Limits on the Regret of Online Network-Caching.** Rajarshi Bhattacharjee, Subhankar Banerjee and Abhishek Sinha. *Proceedings of the ACM on the Measurement and Analysis of Computing Systems, Vol 4, No. 2, Article 25, 2020. Also published at ACM SIGMETRICS 2020* [\[PDF\]](#)
3. **Optimizing the Age-of-Information for Mobile Users in Adversarial and Stochastic Environments.** Abhishek Sinha and Rajarshi Bhattacharjee. *IEEE Transactions on Information Theory* [\[arxiv\]](#)
4. **Fundamental limits of age-of-information in stationary and non-stationary environments.** Subhankar Banerjee, Rajarshi Bhattacharjee and Abhishek Sinha. *In 2020 IEEE International Symposium on Information Theory (ISIT), 2020.* [\[arxiv\]](#)
5. **Competitive algorithms for minimizing the maximum age-of-information.** Rajarshi Bhattacharjee and Abhishek Sinha. *Workshop on Mathematical performance Modeling and Analysis (MAMA), ACM SIGMETRICS 2020.* [\[PDF\]](#)
6. **Online Algorithms for Multiclass Classification Using Partial Labels.** Rajarshi Bhattacharjee and Naresh Manwani. *Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2020.* [\[arxiv\]](#)

## RESEARCH EXPERIENCE

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### University of Massachusetts Amherst

Amherst, MA

Graduate Research Assistant

Fall 2020–Current

- *Estimating eigenvalues* of matrices in sublinear time.
- *caching with machine learned advice.*
- Estimating the maximum *matching* of graphs in a streaming model

- Area: Algorithms, Linear Algebra, Online Learning, Caching, Graph theory

### Indian Institute of Technology (IIT) Madras

Project Associate under Prof. Abhishek Sinha

Chennai, India

July 2019–August 2020

- Online algorithms with *sublinear regret for caching*.
- *Competitive online algorithms* for minimizing the *age-of-information (AoI)* for users in a communication network.
- Area: Online Learning, Age-of-information

### Indian Institute of Information Technology (IIIT) Hyderabad

Research Assistant under Prof. Naresh Manwani

Hyderabad, India

February 2018–May 2019

- Online learning algorithms for the weakly supervised setting of *learning with partial labels*.
- Area: Machine learning, Online Learning

## INDUSTRY EXPERIENCE

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### Deloitte Consulting India Private Limited

Business Analyst/Data Scientist

Hyderabad, India

August 2017–December 2017

- Worked on delivering machine learning based solutions to clients.

### PricewaterhouseCoopers Private Limited

Consultant

Kolkata, India

September 2013–July 2015

- Worked on development of software modules for different clients using Java, SQL.
- Interacted with clients to understand business requirements, drafted business proposals.

## SCHOLARSHIPS AND AWARDS

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- Awarded **Sudha and Rajesh Jha Scholarship** at UMass Amherst. (awarded to one student every year)
- **Rashi Ray Memorial Medal** for standing **First** in the order of merit in M.Tech. Computer Science at Indian Statistical Institute
- Awarded **Dean's Fellowship** along with admission to the **PhD program** in Electrical and Systems Engineering at **Boston University**. (declined offer)

## SERVICE

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### Academic service

- **Sub-reviewer:** SODA 2023, STOC 2022, WiOpt 2020. Also helped review papers for IEEE Transactions on Networking, IJCAI, IJCNN.

### Other service

- **Mentorship:** Served as a peer mentor to incoming doctoral students
- Part of a group of students interacting with faculty as a part of the faculty hiring process at UMass Amherst.

## RELEVANT COURSEWORK

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Advanced Algorithms, Optimization, Machine Learning, Randomized Algorithms, Algorithms with Predictions

## PROGRAMMING LANGUAGES

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Python, Matlab, Java