

# Aravind Reddy Talla

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## EDUCATION/TRAINING

<b>Broad Institute of MIT and Harvard</b> Postdoctoral Associate, Mentor: Victoria Popic	Cambridge, MA July 2023 -
<b>Northwestern University</b> Ph.D. in Computer Science, Advisers: Konstantin Makarychev and Aravindan Vijayaraghavan M.S. in Computer Science, GPA: 4.0	Evanston, IL June 2023 March 2021
<b>Indian Institute of Technology (IIT) Kanpur</b> Bachelor of Technology (B.Tech.) in Computer Science with minor in Physics, <i>Distinction</i>	May 2018

## INTERNSHIPS

<b>Adobe Research</b> Primary mentor: Ritwik Sinha Primary mentors: Ryan Rossi and Zhao Song	San Jose, CA (remote) Summer 2022 Summer 2021
<b>Paris Centre for Quantum Technologies, Université Paris Diderot</b> Mentors: Eleni Diamanti and Iordanis Kerenidis, partly funded by Charpak Scholarship	Paris, France Summer 2017
<b>Centre for Quantum Technologies, National University of Singapore</b> Mentor: Hartmut Klauck	Singapore Summer 2016

## PUBLICATIONS

<b>Online Adaptive Mahalanobis Distance Estimation</b> with Lianke Qin and Zhao Song, <a href="#">arXiv link</a>	(to appear in) <i>BigData</i> 2023
<b>Dynamic Tensor Product Regression</b> with Zhao Song and Lichen Zhang, <a href="#">link</a>	<i>NeurIPS</i> 2022
<b>Adaptive and Dynamic Multi-Resolution Hashing for Pairwise Summations</b> with Lianke Qin, Zhao Song, Zhaozhuo Xu, and Danyang Zhuo, <a href="#">link</a>	<i>BigData</i> 2022
<b>One-Pass Algorithms for MAP Inference of Nonsymmetric Determinantal Point Processes</b> with Ryan Rossi, Zhao Song, Anup Rao, Tung Mai, Nedim Lipka, Gang Wu, Eunye Koh, and Nesreen Ahmed, <a href="#">link</a>	<i>ICML</i> 2022
<b>Beyond Perturbation Stability: LP Recovery Guarantees for MAP Inference on Noisy Stable Instances</b> with Hunter Lang, David Sontag, and Aravindan Vijayaraghavan, <a href="#">link</a>	<i>AISTATS</i> 2021
<b>Improved Guarantees for k-means++ and k-means++ Parallel</b> with Konstantin Makarychev and Liren Shan, <a href="#">link</a>	<i>NeurIPS</i> 2020

## PATENT

<b>Online Inference and Learning for Nonsymmetric Determinantal Point Processes</b> with Ryan Rossi, Zhao Song, Anup Rao, Tung Mai, Nedim Lipka, Gang Wu, and Eunye Koh	2022 <i>Filed at USPTO</i>
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## AWARDS & RESEARCH GRANTS

<b>Adobe Research Gift Grant (\$20,000)</b>	2022
<b>Peter and Adrienne Barris Outstanding Teaching Assistant Award</b> , Northwestern, <a href="#">press release</a>	2022
<b>Charpak Scholarship for Research Internship</b> , Government of France	2017
<b>Academic Excellence Award</b> , IIT Kanpur	2015
<b>National Initiative on Undergraduate Science Scholarship</b> , HBCSE (TIFR)	2015
<b>Gold Medallist</b> , Indian National Physics Olympiad, <i>National top 35</i>	2014

## CONFERENCE TRAVEL GRANTS

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NeurIPS 2022 Scholar Award (\$2000)	2022
FOCS 2022 Travel Award (\$425)	2022
ICML 2022 Participation Grant (\$400)	2022
STOC 2019 Student Travel Grant (\$600)	2019

## TEACHING EXPERIENCE

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### Teaching Assistant at Northwestern:

- Mathematical Foundations of Computer Science (CS 212) - Spring 2022, Fall 2020, Fall 2019;  
- Received an award for being the best TA in the Spring 2022 quarter, [press release](#).
- Design & Analysis of Algorithms (CS 336) - Winter 2019

**Teaching Assistant at IIT Kanpur:** Fundamentals of Computing (ESC 101) - Winter 2018

**Volunteer Math Tutor:** As a part of the non-profit Tutoring Chicago program, I tutored a Chicago area middle-school student for the 2021-22 academic year, mainly focusing on middle-school and high-school math.

### Guest lectures at Northwestern:

- Submodular Function Maximization Algorithms for Big Data, April 2022
- Introduction to Markov Chains Math Toolkit for Theoretical Computer Scientists, May 2019

## SERVICE

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### Conference Reviewer:

- Neural Information Processing Systems (NeurIPS) 2023, 2022, 2021
- International Conference on Machine Learning (ICML) 2023, 2022
- International Conference on Learning Representations (ICLR) 2024, 2023, 2022
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2024, 2023

### Conference Volunteer:

- Symposium on Theory of Computing (STOC) 2021, 2020
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2021
- Neural Information Processing Systems (NeurIPS) 2020
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS) 2017

**Workshop Leader and Mentor:** NeurIPS 2022 High-School Outreach Program

**Board Member:** CS PhD Advisory Council (NU, 2020 - 2022)

**Webmaster:** Northwestern CS Theory (2018 - 2023)

**Coordinator:** Card & Board Games Club (IITK), Science Coffeehouse (IITK) (2016 - 17)

**Manager:** English Literary Competitions, Antaragni 2015 (IITK)

## TECHNICAL SKILLS

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**Programming Languages :** Python, C

**Tools:**  $\text{\LaTeX}$ , Git, Gurobi

**Natural Languages:** Native/Bilingual Proficiency - English, Telugu, Hindi;  
Limited Working Proficiency - Korean

**Dynamic Tensor Product Regression :**

- Neural Information Processing Systems (NeurIPS) Dec 2022, New Orleans, LA

**On Clustering, MAP Inference, and Causal Inference :**

- Broad Institute of MIT and Harvard, Popic Lab Nov 2022, Cambridge, MA
- Stanford University, Aghaeepour Lab Oct 2022, Stanford, CA

**Beyond Perturbation Stability: LP recovery guarantees for MAP Inference on noisy stable instances :**

- University of Chicago Theory Lunch Nov 2022, Chicago, IL
- International Conference on Artificial Intelligence and Statistics (AISTATS) April 2021, virtual

**One-Pass Algorithms for MAP Inference of Nonsymmetric Determinantal Point Processes :**

- NSF TRIPODS meeting (poster) Sep 2022, virtual
- International Conference on Machine Learning (ICML) July 2022, Baltimore, MD

**Improved Guarantees for k-means++ and k-means++ Parallel :**

- Neural Information Processing Systems (NeurIPS) Dec 2020, virtual