

# Aravind Reddy Talla

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## EDUCATION

<b>Northwestern University</b>	Evanston, Illinois, USA
Ph.D. in Computer Science, Advisors: Konstantin Makarychev and Aravindan Vijayaraghavan	June 2023
M.S. in Computer Science, GPA: 4.0/4.0	March 2021
<b>Indian Institute of Technology (IIT) Kanpur</b>	
Bachelor of Technology (B.Tech.) in CSE with minor in Physics, Distinction	May 2018

## EMPLOYMENT

<b>IIT Hyderabad</b>	
Visiting Assistant Professor, Department of Artificial Intelligence (AI)	July 2024 -
<b>Broad Institute of MIT and Harvard</b>	Cambridge, Massachusetts
Postdoctoral Associate, Mentor: Victoria Popic	July 2023 - Jan 2024
<b>Adobe Research</b>	San Jose, California (remote)
Intern, Primary mentor: Ritwik Sinha	Summer 2022
Intern, Primary mentors: Ryan Rossi and Zhao Song	Summer 2021
<b>Paris Centre for Quantum Technologies, Université Paris Diderot</b>	Paris, France
Intern, Mentors: Eleni Diamanti and Iordanis Kerenidis, partly funded by Charnpak Scholarship	Summer 2017
<b>Centre for Quantum Technologies, National University of Singapore</b>	Singapore
Intern, Mentor: Hartmut Klauck	Summer 2016

## SELECTED PUBLICATIONS

<b>Dynamic Tensor Product Regression</b>	
with Zhao Song and Lichen Zhang, <a href="#">link</a>	<i>NeurIPS 2022</i>
<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 2022</i>
<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 2021</i>
<b>Improved Guarantees for k-means++ and k-means++ Parallel</b>	
with Konstantin Makarychev and Liren Shan, <a href="#">link</a>	<i>NeurIPS 2020</i>

## OTHER PUBLICATIONS

<b>Online Adaptive Mahalanobis Distance Estimation</b>	
with Lianke Qin and Zhao Song, <a href="#">arXiv link</a>	<i>IEEE BigData 2023</i>
<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>IEEE BigData 2022</i>

## PATENT

<b>Online Inference and Learning for Nonsymmetric Determinantal Point Processes</b>	2022
with Ryan Rossi, Zhao Song, Anup Rao, Tung Mai, Nedim Lipka, Gang Wu, and Eunye Koh, <a href="#">link</a>	<i>Filed at USPTO</i>

## 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>Charnpak 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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### Instructor at IIT Hyderabad:

- Introduction to Submodular Functions (EE 5328) - 5 week course, July - Sep 2024
- Introduction to Artificial Intelligence (AI 1001) - 5 week course, Sep - Oct 2024

### 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) 2021 - 2024
- International Conference on Machine Learning (ICML) 2022 - 2024
- International Conference on Learning Representations (ICLR) 2022 - 2024
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2023, 2024
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS) 2024

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

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

### Webmaster: Northwestern CS Theory group (2018 - 2023)

**Coordinator at IIT Kanpur student groups:** Association for Computing Activities ([ACA](#)), Card & Board Games Club ([CBG](#)), and Science Coffeehouse ([SCH](#)) (2016 - 17)

## INVITED TALKS AND POSTER SESSIONS

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### On MAP Inference of Ferromagnetic Potts Models and Nonsymmetric Determinantal Point Processes :

- IIT Kanpur Jun 2024, Kanpur
- IISc Bangalore, [YouTube link](#) May 2024, Bengaluru
- IIT Hyderabad May 2024, Hyderabad

**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