

# 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 Madras</b>	
Research Scientist, Centre for Responsible AI (CeRAI), Wadhvani School of Data Science & AI	3 Nov 2025 -
<b>IIT Hyderabad</b>	
Visiting Assistant Professor, Department of Artificial Intelligence (AI)	22 July 2024 - 21 July 2025
<b>Broad Institute of MIT and Harvard</b>	Cambridge, Massachusetts, USA
Postdoctoral Associate, Mentor: Victoria Popic	July 2023 - Jan 2024
<b>Adobe Research</b>	San Jose, California, USA (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

## REFEREED INTERNATIONAL CONFERENCE PROCEEDINGS

<b>1. DiRe: Diversity-promoting Regularization for Dataset Condensation</b>	
with Saumyanjan Mohanty and Konda Reddy Mopuri	<i>Accepted at WACV 2026</i>
<b>2. Online Adaptive Mahalanobis Distance Estimation</b>	
with Lianke Qin and Zhao Song, <a href="#">conference proceedings link</a>	<i>BigData 2023</i>
<b>3. Dynamic Tensor Product Regression</b>	
with Zhao Song and Lichen Zhang, <a href="#">conference proceedings link</a>	<i>NeurIPS 2022</i>
<b>4. One-Pass Algorithms for MAP Inference of Nonsymmetric Determinantal Point Processes</b>	
with Ryan Rossi, Zhao Song, and others, <a href="#">conference proceedings link</a>	<i>ICML 2022</i>
<b>5. Adaptive and Dynamic Multi-Resolution Hashing for Pairwise Summations</b>	
with Lianke Qin, Zhao Song, Zhaozhuo Xu, and Danyang Zhuo, <a href="#">conference proceedings link</a>	<i>BigData 2022</i>
<b>6. Beyond Perturbation Stability: LP Recovery Guarantees for MAP Inference on Noisy Stable Instances</b>	
with Hunter Lang, David Sontag, and Aravindan Vijayaraghavan, <a href="#">conference proceedings link</a>	<i>AISTATS 2021</i>
<b>7. Improved Guarantees for k-means++ and k-means++ Parallel</b>	
with Konstantin Makarychev and Liren Shan, <a href="#">conference proceedings link</a>	<i>NeurIPS 2020</i>

## GRANTED US PATENT

<b>1. Online Inference and Learning for Nonsymmetric Determinantal Point Processes</b>	2025
with Ryan Rossi, Zhao Song, and others, <a href="#">Google Patents link</a>	<i>US12288237B2</i>

## AWARDS & RESEARCH GRANTS

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<b>Adobe Research Gift Grant (\$20,000)</b> , awarded for a grant application I wrote to support my PhD	2022
<b>Peter and Adrienne Barris Outstanding Teaching Assistant Award</b> , Northwestern, <a href="#">press release</a>	2022
<b>CS Supplemental Award (\$3,000)</b> , Northwestern, for being one of the top CS PhD applicants	2018
<b>Charpak Scholarship for Research Internship</b> , Government of France	2017
<b>Academic Excellence Award</b> , IIT Kanpur, for being in the top 10% of the batch by first-year CPI	2015
<b>National Initiative on Undergraduate Science Scholarship</b> , HBCSE (TIFR)	2015
<b>Gold Medallist</b> , Indian National Physics Olympiad (INPhO) 2014, <i>National top 35</i>	2014
<b>All India Rank 189</b> , JEE Advanced 2014	2014

## CONFERENCE TRAVEL GRANTS

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

## TEACHING EXPERIENCE

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### Instructor at IIT Hyderabad:

- Convex Optimization/Optimization-1 (AI 2101/AI 1233) : Full semester course, Jan - May 2025, Course Rating: 4.03/5.00, Instructor rating: 4.02/5.00 (158 students enrolled, 124 ratings submitted)
- Programming for AI (AI 1013): 10 week course, co-taught with Dr. P.N. Karthik, Course Rating: 4.71/5.00, Instructor rating (only for me): 4.58/5.00 (36 students enrolled, 34 ratings submitted)
- Introduction to Modern Artificial Intelligence (AI 1001) : 5 week course, Sep - Oct 2024, Course rating: 4.07/5.00, Instructor rating: 4.02/5.00, (103 students enrolled, 90 ratings submitted)
- Introduction to Submodular Functions (EE 5328) : 5 week course, July - Sep 2024, Course rating: 4.35/5.00, Instructor rating: 4.70/5.00, (5 students enrolled, 4 ratings submitted)

### 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 AND OUTREACH

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### Conference Reviewer:

- Annual AAAI Conference on Artificial Intelligence (AAAI) 2026
- Neural Information Processing Systems (NeurIPS) 2021 - 2025
- International Conference on Machine Learning (ICML) 2022 - 2025
- 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

**Invited Speaker:** For 300 high-school students, Oak Valley International School, Hyderabad, Jun 2025

**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)

## TECHNICAL SKILLS

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**Programming Languages :** Python, C

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

## INVITED TALKS AND POSTER SESSIONS

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### Beyond Worst-Case Analysis of Algorithms in Data Science & AI:

- IIT Madras, Department of Data Science and Artificial Intelligence (DSAI) Apr 2025

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

- IIT Madras, Department of Data Science and Artificial Intelligence (DSAI) Sep 2024
- IIT Kanpur, Department of Computer Science and Engineering (CSE) Jun 2024
- IISc Bangalore, as a part of Bangalore Theory Seminar, [YouTube link](#) May 2024
- IIT Hyderabad, Department of CSE and Department of AI May 2024

### Dynamic Tensor Product Regression :

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

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

- Broad Institute of MIT and Harvard, Popic Lab Nov 2022, Cambridge, Massachusetts, USA
- Stanford University, Aghaeepour Lab Oct 2022, Stanford, California, USA

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

- University of Chicago Theory Lunch Nov 2022, Chicago, Illinois, USA
- 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, Maryland, USA

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

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