

# NILAVA METYA

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## SUMMARY

Third year Mathematics PhD student with extensive research experience. Proficient in comprehending *technical* articles with a heavy interest in *communicating* ideas between the technical and non-technical audience. Seeking to use my strong *quantitative* skills and interest in *collaborative problem-solving* and communication to develop algorithms for complex *data-driven* problems.

## EDUCATION

**Rutgers, the State University of New Jersey - New Brunswick**

Sep '22 – (expected) '27

*Doctor of Philosophy in Mathematics* | CGPA: 4.0/4.0

*Master of Science in Mathematics* | CGPA: 4.0/4.0 | **2022 - '24**

Piscataway, New Jersey, USA

*passed written qualifying exams in first attempt just before program started*

**Chennai Mathematical Institute**

Aug '19 – May '22

*Bachelor of Science (Honours) in Mathematics and Computer Science* | CGPA: 9.72/10

Chennai, Tamil Nadu, India

*Third (out of 55 students), completed degree requirements in 2.5 years*

## PUBLICATIONS/PREPRINTS

1. DePaul, Hoşten, Metya, Nometa. Degrees of the Wasserstein distance to small toric models. *Journal of Algebraic Statistics*

## PROJECTS/EXPERIENCE

**Distributionally Robust Games** | *with B Gangwani and A Sinha*

current

**Protein symmetry prediction** (with certificate) | *Data Science Bootcamp at the Erdős Institute*

Feb - Apr '24

**Inference on growth process of a network** | *Data Mining course*

Sep - Dec '23

**Principal Components along Quiver representations** | *Computational Topology course*

Sep - Dec '23

## SELECTION/ATTENDANCE IN CONFERENCES/WORKSHOPS

**Princeton Machine Learning Theory Summer School** | *Summer School* | Princeton

Aug '24

**Efficient Algorithms for High Dimensional Metrics** | *Workshop* | DIMACS, Rutgers, NB

May '24

**Bayesian Statistics and Statistical Learning** | *Workshop* | IMSI, Chicago

Dec '23

**Algebraic Methods in Biochemical Reaction Networks** | *Workshop* | MPI, Leipzig

Jun '23

## HONOURS AND AWARDS

**Nominated by Rutgers Math department** for SLMath summer school

Jun '23

*Summer school at Leipzig - awarded full travel funding. Only two students from Rutgers Math were fully funded by SLMath.*

**Academic Excellence Award** at Rutgers

Sep '22

*Received a certificate and \$100 based on performance in Written Qualifying Exams.*

**Shriram Scholarship** at CMI

'19 – '22

*Received institutional fee waiver and monthly stipend (based on entrance exam).*

**Ranked 4<sup>th</sup> nationally at the Bachelor of Statistics (B.Stat.) entrance examination of ISI**

'19

**Selected among (approx) top 100-130 school students in India in Zonal Informatics Olympiad**

'17, '18, '19

**Selected for Indian National Mathematical Olympiad Training Camp** among 30 students in West Bengal.

Jan '18

**Tara and Jasubhai Mehta Fellowship** for PROMYS

'18, '19, '20, '21

**Others**

- Qualified for **International Collegiate Programming Contest (ICPC)** Kharagpur regionals and Amritapuri regionals in 2019 and secured rank 35 among (approx) 90 university teams at Kharagpur.
- Selected among top 30 students in India to participate in **Scholastic Test of Excellence in Mathematical Sciences (STEMS)** camp at CMI in 2018 (grades 9 – 12 and across Math, Physics, Computer Science).
- Secured the **third position** in **Mathematics Talent Reward Programme (MTRP)** 2016, organized by ISI Kolkata.

## SKILLS

**Research**

Optimization and AI/ML in game theory, mathematics of ML

**Languages**

Bengali (mother tongue), English (fluent), Hindi (fluent), German (beginner)

**Tech**

Python, C++, R, Haskell, MATLAB, JAVA, HTML,  $\text{\LaTeX}$ , Microsoft Word, Unix

**Relevant Courses**

Optimization, Theoretical Machine Learning, Data Mining, Probability, Algorithms

## SELECTED TEACHING/GRADING EXPERIENCE

**Teaching Assistant / Grader** | Rutgers

Sep '22 –

TA/grader for undergraduate courses like calculus, topology, number theory, statistics, abstract algebra, real analysis

**Head Counselor at PROMYS India** | IISc Bangalore

May – Jun '23

**Teaching Assistant** | CMI

May '20 – May '22

TA/grader for (under)graduate courses like linear algebra, discrete math, Haskell, probability, algorithms