Nilava Metya

Piscataway, NJ - 08854, USA

nilava30@gmail.com | nilavam.github.io

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**
Piscataway, New Jersey, USA

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

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

passed written qualifying exams in first attempt just before program started

Chennai Mathematical Institute — **Aug '19 – May '22**
Chennai, Tamil Nadu, India

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

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 Erdös 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^{th} 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, LaTeX, Microsoft Word, Unix
Relevant Courses	Convex Optimization, Machine Learning, Data Mining, Probability, Statistics, 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