CV

Satyaki Mukherjee

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Apartment 334, Baierbrunner Str. 44

Munich, Germany - 81379

Date of birth: 18-06-1992

Birth city: Durgapur, West Bengal, India

Highest Degree: Ph.D. in Mathematics

Surname: Mukherjee

Given name: Satyaki

email: paglasatyaki@gmail.com

Nationality: Indian

family status : Unmarried

0.1 Current Affiliation

Postdoctorate @ Theoretical Foundations of AI group at Technical University of Munich

Mentor: Debarghya Ghoshdastidar

0.2 Education

University of California, Berkeley

Ph.D.,Department of Mathematics   Aug 2015 - May 2021

Advisor: Professor Nikhil Srivastava

Thesis : Pseudospectra of matrices and Pointspectra of infinite operators

GPA : 3.8/4

Indian Statistical Institute, Bangalore, India

Master of Mathematics (Gold Medalist)   July 2014 - May 2015

Total Percentage: 87%

Bachelor of Mathematics   July 2011 - May 2013

Total percentage score: 90%

Key Courses: Sampling methods, Stochastic processes, Bayesian statistics, Measure theoretic probability, Data Structures and Algorithms, Real and Complex analysis,Linear Algebra, Abstract Algebra, Commutative Algebra,

0.3 Programming Languages

Python, Octave, C++.

0.4 Publications

(***** starred contributors are in alphabetical-order)

1. **Representation Learning Dynamics of Self-Supervised Models** Pascal Mattia Esser*, **Satyaki Mukherjee***, Debarghya Ghoshdastidar* Arxiv 2023 **Currently in review at AAAI 2023**

2. **Improved Representation Learning Through Tensorized Autoencoders** Pascal Mattia Esser*, **Satyaki Mukherjee***, Mahalakshmi Sabanayagam*, Debarghya Ghoshdastidar AISTATS 2023 Arxiv 2022.

3. **Wasserstein Projection Pursuit of Non-Gaussian Signals Satyaki Mukherjee***, Soumendu Sundar Mukherjee*, Debarghya Ghoshdastidar Arxiv 2023.

4. **On a generalisation of the coupon collector problem** Siva Athreya*, **Satyaki Mukherjee***, Soumendu Sundar Mukherjee* Arxiv 2023.

5. **Point Spectrum of Periodic Operators on Universal Covering Trees** Jess Banks*, Jorge Garza-Vargas* **Satyaki Mukherjee*** IMRN 2021 Arxiv 2020.

6. **Gaussian Regularization of the Pseudospectrum and Davies' Conjecture** Jess Banks*, Archit Kulkarni*, **Satyaki Mukherjee***, Nikhil Srivastava*. CPAM 2021 Arxiv 2019.

7. **One-round discrete Voronoi game in $\mathbb{R}^2$ in presence of existing facilities.** Aritra Banik*, Bhaswar B. Bhattacharya*, Sandip Das* and **Satyaki Mukherjee*** In CCCG 2013, pages 37-42; CCCG 2013

8. **A note on the transversal size of a series of families constructed over Cycle Graph.** Kaushik Majumder*, **Satyaki Mukherjee*** arXiv 2015, JCTA 2018

9. **On Concentration Inequalities for Random Matrix Products** Tarun Kathuria*, **Satyaki Mukherjee***, Nikhil Srivastava*. Arxiv 2020

10. **A special case of the existential version of the NCK inequality** **Satyaki Mukherjee***. Arxiv 2019

0.5 Academic Achievements and Awards

- Represented the Indian team and received Bronze medal at 51st International Mathematics Olympiad, Kazakhstan, 2010.

- Passed first round for the Informatics Olympiad selection procedure (organized by IARCS).

- Passed first round for the Physics Olympiad selection procedure (organized by IAPT).

0.6 Extra Curricular Activities:

- Was the student president in my undergraduate institution.

- Organized treasure hunts during my undergraduate studies.

- Was an organizer in the Mathematics Graduate Student Organisation, Berkeley.

0.7 Brief Synopsis of Teaching Experience:

At Berkeley I was Graduate Student Instructor for the following courses.

- Math-54 : Undergraduate Linear Algebra

- Math-110: Upper division Linear Algebra.

- Math-55: Discrete Mathematics

At TUM I have been responsible for teaching the following courses.

- Master Seminar - Theoretical Advances in Deep Learning.

- Practical Course - Analysis of new Phenomena in Machine/Deep Learning.