

Kanan Gupta

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Research interests: Mathematical machine learning

EDUCATION

University of Pittsburgh, Pennsylvania, USA

- Ph.D. in Mathematics Aug 2023 – Present
 - Advisor: Dr. Stephan Wojtowytsch

Texas A&M University, Texas, USA

- M.S. in Mathematics Jan 2021 – Aug 2023
 - Advisor: Dr. Stephan Wojtowytsch

Ashoka University, Haryana, India

- B.S. in Mathematics, Minor: Computer Science Aug 2016 – May 2020
 - Thesis: K-Theory and C*-Algebras
 - Advisor: Dr. Inder Bir Singh Passi

RESEARCH

- **Achieving acceleration despite very noisy gradients** (with Jonathan Siegel and Stephan Wojtowytsch), Preprint, arxiv.org/abs/2302.05515 Feb 2023

AWARDS & HONORS

- Data Science Ambassador Scholarship, Texas A&M Institute for Data Science 2022–2023
- Ashoka University Prize for Outstanding Graduating Student in Mathematics May 2019
- Dean's List, Spring 2017 through Spring 2020, Ashoka University 2017 – 2020
Awarded seven times consecutively
- IASc-INSA-NASI Summer Research Fellowship Summer 2018
Funding for joining a research group as an undergraduate researcher.
Awarded jointly by the three national science academies of India.

TALKS

- **SIAM NY-NJ-PA Sectional Annual Meeting**, Newark Oct 2023
- **International Congress on Industrial and Applied Mathematics 2023, Tokyo**
Minisymposium: At the interface of neural networks and differential equations Aug 2023
- **Foundations of Computational Mathematics 2023, Paris**
Workshop: Foundations of Data Science and Machine Learning (Poster) Jun 2023
- **Mathematical and Scientific Machine Learning 2023**,
ICERM, Brown University (Poster) Jun 2023
- **Center for Approximation and Mathematical Data Analytics Conference**,
Texas A&M University (Poster) May 2023
- **Gathering in Graduate Expository Mathematics**, Texas A&M University Apr 2022
- **Azim Premji University Science Undergraduate Research Conference** Dec 2019
- **Ashoka University Mathematics Colloquium** Sep 2018

TEACHING

University of Pittsburgh

- Teaching Assistant
 - MATH 0200: Prep for Scientific Calculus Fall 2023
 - MATH 0235: Honors 1-variable Calculus Fall 2023

Texas A&M University

- Teaching Assistant
 - MATH 151: Engineering Calculus I Fall 2022, Fall 2021
 - MATH 152: Engineering Calculus II Spring 2022
- Grader
 - MATH 696: Mathematical Communication and Technology Summer 2022, Summer 2021
 - MATH 409: Advanced Calculus I Spring 2021

Ashoka University

- Teaching Assistant
 - MAT 3120: Advanced Linear Algebra and Matrix Analysis Fall 2020
 - MAT 2003: Real Analysis Fall 2019
- Tutor, Mathematics Helpdesk Fall 2018

SERVICE

- Secretary, Society for Industrial and Applied Mathematics (SIAM) Student Chapter at Texas A&M University 2022–2023
- Mentor, Directed Reading Program Spring 2023, Spring 2022
- Elected Member, Ashoka University Student Government Feb 2018–Jan 2019
- Mathematics Department Student Representative, Academic Advisory Board, Ashoka University Mar 2018–Feb 2019

OTHER

EXPERIENCE

Duolingo

- Hindi Language Expert Feb 2016 – Dec 2020
- Created the English for Hindi speakers and Hindi for English speakers courses and led teams of course contributors
 - Handled localization of the website and app interfaces and newsletters
 - Helped conduct user studies, formulate marketing campaigns, and write advertisement copies

AmuseLabs

- Hindi and Urdu Language Consultant Nov 2020 – Dec 2020
- Translated the user interface into Hindi and Urdu.
 - Created sample language puzzles for Urdu audience.

Indian Institute of Science, Bangalore

- Summer Research Intern May 2018 – Jul 2018
- Worked at Physical Nano-memories, Signal, and Information Processing Laboratory under the supervision of Dr. Shayan Srinivasa Garani
 - Researched error evaluation algorithms for non-binary two dimensional cyclic codes

PROGRAMMING

Python, PyTorch, TensorFlow, MATLAB