Deependra Singh
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EDUCATION

University of Pennsylvania
Ph.D., Mathematics
Philadelphia, PA
2019 – 2024 (Expected)

Title: *Admissible Groups over Global Fields*
Advisor: Prof. David Harbater

University of Pennsylvania
M.S.E., Computer & Information Science (GPA 4.0/4.0)
Philadelphia, PA
2017 – 2019

Indian Institute of Technology Delhi
B.Tech., Computer Science & Engineering
New Delhi, India
2010 – 2014

PUBLICATIONS

"Admissible Groups over Global Fields". [pdf file of the preprint]

"Enhanced integrated gradients: improving interpretability of deep learning models using splicing codes as a case study", with A. Jha, J. Aicher, and Y. Barash. *Genome Biology*, Vol. 21 (2020), pp. 1–22.

"Automating Relevance Banding in e-Commerce Search using Click Model", with V. Deolalikar. *IEEE International Conference on Big Data*, 2018, pp. 3793-3797.

"Islands of Interest: Mining Concentrations of User Search Intent over e-Commerce Product Categories", with N. Pradhan and V. Deolalikar. *IEEE International Conference on Big Data*, 2018, pp. 3717-3722.

AWARDS AND FELLOWSHIPS

Benjamin Franklin Fellowship
University of Pennsylvania
2019–2024

Certificate in College and University Teaching
Penn Center for Teaching and Learning
Fall 2023

Good Teaching Award
University of Pennsylvania Mathematics Department
Spring 2021

Fellowship in Computer Science
University of Pennsylvania
2017–2019

MHRD scholarship
Government of India
2010-2014

TEACHING

University of Pennsylvania
Instructor of Record, Math-1410 Calculus II
Philadelphia, PA
Summer 2023

Princeton Prison Teaching Initiative
Volunteer math instructor for South Woods State Prison in New Jersey.
Spring 2023 – Present
Tutor, MATH 020 Algebra — Spring 2024
Co-Instructor, Math in the Courtroom — Spring 2023

Penn Pre-First Year Program
Program for first generation, low-income undergraduate students.
Philadelphia, PA

Teaching Assistant, Math-A Pre-Calculus   Summer 2023

University of Pennsylvania   Philadelphia, PA
Teaching Assistant, Math 3610 Advanced Calculus II   Spring 2024
Teaching Assistant, Math 360 Advanced Calculus I   Fall 2021
Teaching Assistant, Math 509 Honors Analysis II   Spring 2021
Teaching Assistant, Math 240 Calculus III   Fall 2020

Penn Directed Reading Program   Fall 2021 – Present
Mentor for the following undergraduate reading projects:
Number Theory, Molly Bradley   Spring 2024
Quadratic Reciprocity, Angela Cai   Fall 2023
Algebraic Curves, Max Wang   Spring 2023
Probablistic Methods, Max Wang   Fall 2022
Covering Spaces, Kevin You   Fall 2021

SERVICE AND **Penn Graduate Algebraic Geometry Seminar**   Fall 2022 - Present
FACILITATION Co-organizer of the student algebraic geometry seminar with A. Kwon and E. Lennen.

Patching in Arithmetic Geometry   Spring 2022
Co-organizer of the graduate student seminar on patching methods in arithmetic geometry.

Math Circles   Summer 2023 - Present
Co-organizer of the Math Circles at the West Philadelphia High School with M. Ong.

TALKS   Penn Algebra Seminar
Admissibility over number fields   Spring 2024

Penn Graduate Algebraic Geometry Seminar
Rational points on varieties and the Brauer-Manin set   Spring 2024
An introduction to Étale cohomology   Spring 2023
Admissibility over $\mathbb{Q}$ Fall 2022

Patching in Arithmetic Geometry
Patching division algebras over semi-global fields   Spring 2022

Expository Talks
Grothendieck topologies and cohomology   Spring 2024
Milnor K-theory   Spring 2022
Numerical invariants and stability on algebraic stacks   Fall 2021
Introduction to spectral sequences   Spring 2021

SELECTED   VaNTAGe Seminar   Fall 2023 - Present
CONFERENCES   Arizona Winter School 2024: Abelian Varieties   Spring 2024
& SEMINARS   Algebraic Geometry Northeastern Section (AGNeS)   Fall 2023
              Arizona Winter School 2022: Automorphic Forms Beyond GL2   Spring 2022

WORK   **Groupon**   Palo Alto, CA
EXPERIENCE   Data Scientist, *Search & Data Mining team*   Oct 2015 – June 2017

              Groupon   Chennai, India
              Data Scientist, *Data Science team*   Jun 2014 – Sep 2015