

EDUCATION

- **Ph.D. Mathematics: University of Florida** Gainesville, USA
GPA : 4/4 Research Interest : Topological Data Analysis Aug 2021 - Ongoing
- **M.Sc. Mathematics: Indian Institute of Technology Delhi** New Delhi, India
GPA : 10/10 Rank : 1st in College (Received Gold Medal) July 2018 - Aug 2020
- **B.Sc. (Honours) Mathematics: Hindu College, University of Delhi** New Delhi, India
GPA : 9.514/10 Rank : 1st in College (Received various awards and scholarships) July 2015 - May 2018

TEACHING

- **Analytic Geometry and Calculus II** Teaching Assistant
MAC2312, University of Florida Spring 2023
- **Analytic Geometry and Calculus I** Teaching Assistant
MAC2311, University of Florida Fall 2022
- **Elementary Differential Equations** Instructor
MAP2302, University of Florida Summer B 2022
- **Analytic Geometry and Calculus I** Teaching Assistant
MAC2311, University of Florida Spring 2022
- **Mathematics for Liberal Arts I** Teaching Assistant
MGF1106, University of Florida Fall 2021

INTERNSHIP

- **Bureau of Economic and Business Research(BEBR at UF)** Gainesville, Florida, USA
Collect, generate and analyse economic and demography Data of Florida June-Aug 2022
 - Worked with Associate Dean in College of Liberal Arts and Sciences at the University of Florida to identify potential hires and future grants for research at various University levels in Fall-2022.
 - Started by collecting all research publications at the University of Florida over the last 20 years.
 - Trained Neural Networks to get embedding for the topics and performed Persistent Homology on the Topic-Embedding to get the topological feature of Data.
 - Performed Dimensionality Reduction for better visualization and used the DASH app & Plotly to deploy it on the web for easy access.
 - Applied Network Analysis approaches with Topological Data Analysis to analyze the publication network gaps/holes that persisted over the years

RESEARCH

- **Paper on Topological Data Analysis and Network Analysis** Gainesville, Florida
Author: Himanshu Yadav — Thomas Bryan Smith — Christopher McCarty August 2022 - Ongoing
 - Engineering Innovation: applying Topological Data Analysis to document and topic embeddings to identify persistent gaps in scientific literature.
 - Identifying persistent holes in the Criminal Co-offender Network and making recommendations for policing.

PROJECTS

- **Android App Development: Expense Manager for Team** New Delhi, India
Developed an Expense Manager app for our Team at Pehel(Initiative) *Mar 2020 - July 2020*
 - Tracked the team expenditure with this app to monitor spending at various organizational levels.
 - Used the expenditure data to allocate resources for the diverse functioning of the organization.
- **Master's Thesis: L_p spaces for Data** New Delhi, India
Advisor: Prof. Subiman Kundu, Indian Institute of Technology Delhi *July 2019 - August 2020*
 - Extended Kolmogorov and Riesz work to conclude compactness when high dimensional data is stored in L_p Spaces.
 - Various properties of Data in L_p Spaces and important conditions for inclusion of one space in another.

POSITIONS OF RESPONSIBILITY

- **Co-Founder of Pehel(Initiative)** New Delhi, India
This was an initiative to provide primary education to underprivileged kids. *Jan 2019 - July 2021*
 - Managed a team of 50 people to implement an innovative pedagogy to teach kids.
 - Received an award by iCONGO in partnership with the United Nations for our organisation Pehel.

SKILLS

- Python, MySQL, Machine Learning, Large-Scale Data Analysis, Julia, Kotlin, Android App Development

ATTENDED CONFERENCES

- **IHP Measure-theoretic Approaches & Optimal Transportation in Statistics** November 21-25, 2022
Paris, France
- **Binghamton University, BUGCAT Conference** November 5-6, 2022
Binghamton, NY, USA
- **VSU CBMS Conference on Topological Data Analysis and Persistence Theory** August 8-12, 2022
Valdosta, GA, USA
- **2022 Data Science Informatics Spring Symposium** April 9, 2022
Gainesville, FL, USA
- **47th Annual New York State Regional Graduate Mathematics Conference** April 2, 2022
Syracuse, NY, USA
- **2021 Joint Meetings of Florida-MAA and FTYCMA** February 18-19, 2022
Virtual Zoom Meeting
- **FSU-UF Joint Topology and Geometry Meeting** February 11-12, 2022
Gainesville, FL, USA
- **University of Florida Topological Data Analysis Conference (UFTDA2022)** January 20-21, 2022
Gainesville, FL, USA