Raj Kamal

Contact Information

The Amar Nath and Shashi Khosla School of Information Technology
IIT Delhi Campus, Hauz Khas, New Delhi - 110016.

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Research Interests

Spectral Hypergraph Theory, Personalized PageRank, Machine Learning, Deep Learning, and Clustering Algorithms.

Education

Indian Institute of Technology (IIT) Delhi, India

Ph.D., Computer Science & Engineering. December 2018 – Continuing

- Advisor: Dr. Amitabha Bagchi

Indian Institute of Technology (IIT) Delhi, India

M.Tech., Computer Applications. July 2013 – June 2015

- Dissertation Topic: "Finite Fields and Their Applications"
- Advisor: Dr. R. K. Sharma

Indian Institute of Technology (IIT) Delhi, India

M.Sc., Mathematics. July 2008 – June 2010

- Dissertation Topic: "Applications of Linear Algebra"
- Advisor: Dr. R. K. Sharma

Experience

Indraprastha College For Women (University of Delhi) July 2015 – Feb 2018

Assistant Professor of Mathematics

Miranda House (University of Delhi) July 2011 – May 2013

Assistant Professor of Mathematics

Lovely Professional University, Jalandhar July 2010 – Nov 2010

Assistant Professor of Mathematics

Publications

Raj Kamal, Amitabha Bagchi. A Lovasz-Simonovits Theorem for Hypergraphs with Application to Local Clustering. Accepted to ACM SIGMOD/PODS International Conference on Management of Data (SIGMOD 2025), June 2025. Published as Proc. ACM. Managment of Data, 2(4):1-27, Article No. 190, 30 September 2024. doi/10.1145/3677126

Mahdihusain Momin, Raj Kamal, Shantwana Dixit, Sayan Ranu, Amitabha Bagchi. KWIQ: Answering k-core Window Queries in Temporal Networks. To appear in 26th International Conference on Extending Database Technology (EDBT '23), March 2023. doi:10.48786/EDBT.2023.17

Honors and Awards

I am a Venkat Padmanabhan Doctoral Fellow.

Prof. M M Chawla Gold Medal for securing highest DGPA amongst all graduates of M.Tech. 2015.

All India Rank 19 in Gate - Mathematics. 2013.

Courses

- **Teaching Assistant**: Discrete Mathematics, Numerical Methods, Data Structures.
- **PhD Course Work**: Data Mining, Advanced Data Structures and Algorithms, Digital Image Analysis, Software Engineering.

Skills

- **Proficient**: C, C++, Python, MATLAB, Mathematica.
- **Intermediate**: C#, Java.