Mehul Kumar, Ph.D. Thesis Submitted

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Education

2021 – 2026 | 🔖 **Ph.D., Computer science and engineering**, **S**chool **o**f Engineering **SOE**,
Jawaharlal **N**ehru **U**niversity (**JNU**) New Delhi- 110067
Thesis title: *Transformer based image retrieval analysis*
Advisors: Dr. Prerana Mukhaerji
CGPA:7.5/9
Research Felloship: UGC-JRF (Dec 2021- Dec 2026)

2018 – 2021 | 🔖 **Mtech., Computer science and Technology**, **S**chool **o**f **C**omputer and **S**ystem **S**cience, **SC&SS**,
Jawaharlal **N**ehru **U**niversity (**JNU**) New Delhi- 110067
Dissertation *Energy Efficiency in Drone Communication.*
Advisor: Dr. Karan Singh
CGPA: 6.74/9

2013 – 2017 | 🔖 **Btech. Computer Science**, **P.G.D.A.V** College
Uiverisity **o**f **D**elhi **DU**, New Delhi - 110065
BTP : *Face Detection and Recognition.*
MARK: 3056/4600

Academic and Research Interests

- 🔖 **Computer Vision**
- 🔖 **Deep Learning**
- 🔖 **Machine Learning**
- 🔖 **Data Structures**
- 🔖 **Operating Systems**

Research Publications

Journal Articles

1. M. Kumar, R. Singh, and P. Mukherjee, "Vthsc-mir: Vision transformer hashing with supervised contrastive learning based medical image retrieval," *Pattern Recognition Letters*, 2024.

Conference Proceedings

1. M. Kumar, D. Joshi, and P. Mukherjee, "Mamba-tbps: An efficient attribute-relation-sensitive framework for text-based person search," in *Proceedings of the National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG)*, **Best Paper Award**, 2025.

2. M. Kumar, A. Sharma, P. Mukherjee, and K. R. Jerripothula, "Cmaeh: Contrastive masked autoencoder based hashing for efficient image retrieval," in *International Conference on Pattern Recognition*, Springer, 2025, pp. 437–452.

Skills

Coding	◼	Python, Pytorch, MatLab, TENSORFLOW C, C++, LATEX, …
Tools and Libraries	◼	Numpy, Pandas, Matplotlib, openCV, PyTorch, HuggingFace, LLM.
Web Dev	◼	HTML, CSS
Languages	◼	Strong reading, writing and speaking competencies for English, Hindi.
Misc.	◼	Academic research, teaching, training, consultation, LATEX typesetting and publishing.

Awards and Achievements

May-2025	◼	**OxML'25** Got Partial Scholarship to attend Oxford Machine Learning Summer School in London, UK.
Dec 2023 – Dec 2026	◼	**Senior Research Fellowship (SRF).** Awarded for Ph.D. research after successful completion of JRF tenure.
Dec 2021 – Dec 2023	◼	**Junior Research Fellowship (JRF).** Awarded under government fellowship scheme to pursue Ph.D. studies.
Nov 2020	◼	**UGC NET & JRF Qualified.** Qualified for both Assistant Professor eligibility and Junior Research Fellowship.
June 2020	◼	**UGC NET Qualified.** Qualified for eligibility as Assistant Professor.
2018 – 2020	◼	**Merit-cum-Means Scholarship.** Received during M.Tech studies based on academic performance and financial need.

Conference & Symposium Attended

July-2025	◼	**NCVPRIPG 2025** Attend National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics at IIT Jammu..
June-2025	◼	**OxML'25** Attend Oxford Machine Learning Summer School (MLx Generative AI 2025).
May-June 2025	◼	**Deep Learning Summer school** 1'st Summer School in Deep Learning at PDPM II-ITDM, Jabalpur
Dec 2024	◼	**IndoML 2024** Attended at BITS Pilani K K Birla Goa Campus.

References

Dr. Prerana Mukherjee
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