

Kavin R V

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Research Interests

I am interested in developing viable alternatives that enable models to operate at the level of concepts, in a way that is less dependent on surface form and more naturally extensible across languages and modalities such as speech and images. Toward this goal, I study how concepts emerge, evolve, and are encoded within token-level representations, with a particular interest in applying this understanding to byte-level models and concept-level architectures that process information at a more fundamental semantic level. More broadly, my work also extends Diffusion Language Models, Composed Image Retrieval, Generative Retrieval, and LLM Embeddings.

Education

Indian Institute of Technology Kharagpur 2025 – Present
PhD in Computer Science and Engineering

- Supervisor: Dr. Pawan Goyal
- Research areas: Large Language Models, Concept Models, Composed Image Retrieval, Diffusion Language Models, Information Retrieval, LLM-based Embeddings

Indian Institute of Science Education and Research, Bhopal 2019 – 2024
BS-MS in Data Science and Engineering CGPA: 8.82 / 10

- Courses: Advanced NLP, Deep Learning, Computer Vision, Reinforcement Learning, Applied Optimization, AI, Computational Geometry, Introduction to Process Mining

Publications ([Google Scholar](#))

[CORE A*] DocQAC: Adaptive Trie-Guided Decoding for Effective In-Document Query Auto Completion 2026

Rahul Mehta, **Kavin R V**, Indrajit Pal, Tushar Abhishek, Pawan Goyal, Manish Gupta
ACM SIGIR 2026 — [link](#)

[CORE A*] Breaking Token Into Concepts: Exploring Extreme Compression in Token Representation Via Compositional Shared Semantics 2025

Kavin R V, Pawan Goyal
Findings of EMNLP 2025 — [link](#)

Document Aware Contrastive Learning Approach for Generative Retrieval 2024

Kavin R V, Maunendra Sankar Desarkar
GenIR Workshop @ SIGIR 2024 — [link](#)

Research Experience

Dolby Laboratories May 2026 – Aug 2026
Summer Research Intern (Incoming) Bangalore, India

Indian Institute of Technology, Kharagpur May 2024 – Jul 2025
Senior Project Officer (Research), Supervised by Prof. Pawan Goyal Kharagpur, India

- Developed query auto-suggestion models using trie-based constrained decoding along with Dr. Manish Gupta (Microsoft). Under review at SIGIR 2026
- Contributed to RLHF-inspired methods for Semi-Supervised training in Dialogue Systems.
- Worked on a compositional representation for token embeddings, accepted at EMNLP 2025.

Indian Institute of Technology, Hyderabad May 2023 – April 2024

Research Intern, Supervised by Prof. Maunendra Sankar Desarkar

Hyderabad, India

- Explored efficient context representations for dialogue systems, building models that leverage generated context representations for response generation and knowledge selection.
- Worked on a novel approach to generative retrieval by introducing document-aware representations, Accepted at GenIR Workshop @ SIGIR 2024

Honors and Awards

Outstanding Reviewer Award (EMNLP 2025)	2025
IndoML Datathon, 4th Place	2024

Teaching Experience

Teaching Assistant

IIT Kharagpur

CS60010: Deep Learning	2026
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NPTEL: Natural Language Processing	2026
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IISER Bhopal

DSE407: Natural Language Processing	2023
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Service

Peer Review

EMNLP 2025 (Outstanding Reviewer Award)