

Jayesh Umre

PhD Research Scholar, PDPM IIITDM Jabalpur

Email: 24pcsv01@iiitdmj.ac.in — GitHub — LinkedIn

PhD Supervisors: Dr. Ashish Singh Parihar, Prof. Atul Gupta

Professional Summary

PhD Research Scholar at **PDPM IIITDM Jabalpur**, awarded the **Visvesvaraya PhD Fellowship** and qualified in **UGC NET (Computer Science)**. My research focuses on **Transformer architectures**, **adaptive attention scaling**, and **low-resource LLM training**. After completing my **M.Tech in Computer Science** in **2014**, I have gained over **10 years of academic and industry experience**. During my teaching career, I have taught more than 37 subjects across Diploma, UG, and PG levels, and led initiatives such as a Web Development Firm, a Tutorial Website, and an Educational YouTube Channel. I am an alumnus of Jawahar Navodaya Vidyalaya, RGPV Bhopal, and DAVV Indore.

Research Interests

- Transformer Architectures and Attention Mechanisms
- Low-Resource Large Language Model (LLM) Training
- Code Generation, Translation, and Program Repair
- Efficient Neural Network Design and Optimization
- Educational Technology and AI-Enhanced Learning

PhD Achievements

- Recipient of **Visvesvaraya PhD Fellowship**, MeitY, Govt. of India (Aug 2024)
- Participated in national FDPs on **Generative AI** and **LLMs** (January-April 2025)
- Paper presented at **IEEE ICCCNT 2025** (July 2025)
- Built a Transformer model from scratch with a learnable attention scaler for low-resource translation. (January - July 2025)

Teaching Experience

- 10+ years of teaching at Diploma, UG, PG levels
- Taught over 37 subjects including TOC, DSA, SE, DBMS, AI, OS

Subjects Taught (2014–2024): umarejayesh.github.io/SubjectsTaught

Technical Expertise

- **Languages:** Extensive experience in Mobile, Desktop, and Web application development using languages and platforms such as C, C++, Python, C#, PHP, and Android.
- **Networking:** Configured and personally set up the entire IT infrastructure for a group of computer labs comprising over 720 systems. This included deployment of Windows Server 2008 R2, Group Policy, RDS, WDS, DHCP configuration, and FortiGate 100D firewall for network security.
- **Versatility:** Capable of developing in any language or environment

Entrepreneurial & Outreach Activities

Founder of a web development firm and a leading CS education portal in India, with 1000+ tutorials authored and 800+ educational videos delivered through an engaging YouTube channel.

Hobbies & Interests

- **Study:** Exploring AI and Emerging Technologies
- **Sports:** Football and Volleyball

Declaration

I hereby declare that the information provided above is true to the best of my knowledge and belief.

Date: July 29, 2025

Place: Jabalpur

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