Anupam Rawat
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Degree	University		Year	CPI / %
B.Tech + M.Tech (Electrical Engineering)	IIT Bombay		2027	Ongoing
BS (Data Science)	IIT Madras	*(Online)*	2026	Ongoing

Pursuing **Dual Minor** in **CSE** and in Machine Intelligence and Data Science (**CMInDS**)

INTERNSHIPS AND RESEARCH EXPERIENCE

Wyzr Fintech | *Data Science Internship* | *Project Lead* | *Remote (London)*   *(May 2025 - Jul 2025)*
- Led the end-to-end design and development of an **LLM-powered system** to reconcile transactions
- Improved system efficiency by achieving **33% higher accuracy** and **93.84% faster response times** through optimized **dynamic prompts**, **parallelized LLM querying**, and schema validation
- Engineered robust **failure recovery mechanisms** with MongoDB and enhanced database schema

Open Vocabulary Multi-Modal Knowledge Transfer | *Prof. Biplab Banerjee*   *(Spring 2025)*
- Implemented the **Query-Key Similarity (QKS)** attention mechanism from the paper *"Open Vocabulary Multi-Modal Knowledge Transfer"* for multi-modal alignment of image and text embeddings
- Applied the model to large-scale datasets **NUS-WIDE** and **MLRSNet**, simulating generalized zero-shot
- Used a **ViT-B/16 backbone** with asymmetric loss, improving mAP and Precision@k on unseen classes
- Validated QKS generalization across web-image and remote-sensing domains for zero-shot classification

Contactless Biometrics for UIDAI | *UG Research Program* | *Prof. Vikram Gadre* (Dec 2023 – Jul 2024)
- Received a **Letter of Recommendation** for extraordinary performance
- Developed **Shearishlet**, a efficient **ViT-compatible feature extraction** using Shearlet wavelets
- Designed a robust wavelet-based classifier achieving **97% accuracy** in detecting deepfakes, enhancing security in fingerprint SDKs by **identifying subtle artifacts** lost by traditional minutiae-based systems

SCHOLASTIC ACHIEVEMENTS

- Secured position among **top 1.4 percentile** in **JEE Advanced** among **250,000** selected students *(2022)*
- Among the **top 0.79 percentile** students out of **1.1M+** nation wide candidates in **JEE Mains**   *(2022)*
- Recipient of the **Kishore Vaigyanik Protsahan Yojana**, a coveted fellowship by the Dept. of Science and Technology, Government of India by securing a position among top 1000 candiates across India *(2021)*

KEY PROJECTS

Fine-Tuning for Number Series Reasoning | *AMD AI Sprint*   *(July 2025)*
- Fine-tuned **Qwen3-4B** to build a chat-based **Q&A model** for aptitude tasks on a custom dataset
- Applied **PEFT with LoRA** for memory-efficient training and tracked the pipeline using **wandb**

Medusa's Speculative Decoding Framework | *Course Project* | *Prof. Sunita Sarawagi* (Spring 2025)
- Implemented **Medusa's speculative decoding** with multiple heads to enable **parallel token generation**
- Reduced inference, Enhanced decoding speed using **beam search** over parallel probability distributions
- Analyzed the impact of Medusa heads on **translation quality** and **computational efficiency** in LLMs

COMPETITIONS AND HACKATHONS

Image Super Resolution for Gaming Applications | *Kaggle Competition: Rank 4*   *(Apr 2025)*
- Developed a deep learning pipeline using the **EDSR architecture** to upscale images by **4×**
- Implemented **EDSR++ with Charbonnier Loss**, achieving better performance than RCAN and SwinIR
- Integrated **Mixed Precision Training (AMP)** with multi-GPU support, improving perceptual quality

Qualcomm VisionX: Reflection Removal | *Competition Project: Rank 4 / 150+ teams* (Dec 2024)
- Built **Transformer-based system** using Cross-Scale Attention and Multi-Scale Fusion
- Improved PSNR by 22% by deploying a **triple-loss framework** (GAN + perceptual + adversarial)
- Achieved **SSIM 0.835** and robustness against **MSE/LPIPS attacks**, validating efficiency and quality

TECHNICAL SKILLS

- **Languages:** C, C++, Embedded C, Python, MySQL, Assembly, JavaScript, HTML, CSS, VHDL
- **Software / Tools:** Git, Arduino, CAD, Quartus, Keil, Linux, MS Office, LaTeX, MATLAB, Spice, Figma
- **Packages:** PyTorch, TensorFlow, SciKit-Learn, OpenCV, NLTK, SpaCy, Pandas, Matplotlib, Seaborn