

MOHIT KUMAR

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EDUCATION

Vellore Institute of Technology (VIT Chennai) Chennai, India
Bachelor of Technology in Electronics and Computer Engineering | **CGPA:** Aug 2022 – May 2026
9.08/10.0

Radiant International School Patna, India
Higher Secondary Education | Class XII: 95.6% | Class X: 94.2%
2019 – 2021

PROFESSIONAL EXPERIENCE

Shantou University Shantou, China (Remote)
Research Intern May 2025 – Sep 2025

- Designed Gated Multi-Domain CUT model for X-ray normalization across multiple intensity levels using unified generator with attention-based architecture, achieving SSIM of 0.9858 and outperforming CycleGAN, StarGAN, and CUT

Annam.AI IIT Ropar, Punjab (Remote)
Project Intern May 2025 – Jul 2025

- Developed Sanchalak, a multilingual voice assistant enabling farmers to access 50+ government schemes via regional audio input with FastAPI backend, Prolog-based rule engine, Whisper, Azure Translator/TTS, and Gemma LLM achieving sub-5s latency

Samsung R&D Institute India (PRISM) Chennai, India (On-Site)
Research Intern Jul 2024 – Apr 2025

- Fine-tuned CLAP and CLIP models on 20,000+ medical audio samples from PhysioNet, BHIC, AudioSet, VGG-Sound datasets and built annotation pipeline with t-SNE visualization enabling zero-shot analysis across 10+ body sound classes

Center for Cyber Physical Systems, VIT Chennai Chennai, India (Hybrid)
Research Intern Jun 2024 – Aug 2024

- Developed HAR-GCNN model achieving 99.99% accuracy on PAMAP2 dataset with graph-based spatiotemporal architecture robust to 66% missing labels, outperforming CNN (99.75%) and LSTM (98.10%) across 3-25 activity classes

PROJECTS

Nexus - Multi-Agent AI Research Assistant | *Flask, LangGraph, LangChain, WeasyPrint*

- Built multi-agent system automating research article generation with 3 specialized agents, reducing manual effort by 75% and implementing data collection from Google, ArXiv, Wikipedia with Google Fact Check API achieving 100% structured output in .md, .json, .pdf formats in under 20 seconds

Parking Slot Occupancy Detection | *PyTorch, Swin Transformer, OpenCV, YOLO*

- Constructed hybrid deep learning model combining Swin Transformer and GLCM for parking slot classification achieving 98.58% test accuracy and macro F1-score of 0.9856 on custom dataset of 6,110 slots with robustness to shadows and occlusions

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, SQL, Prolog

ML/AI Frameworks: PyTorch, TensorFlow, Scikit-Learn, LangChain, LangGraph, HuggingFace, OpenCV

Tools & Technologies: FastAPI, Streamlit, Git/GitHub, AWS, Azure AI, MongoDB, Jupyter, Docker, Jira

Specializations: Large Language Models, RAG Pipelines, Computer Vision, NLP, Multi-Agent Systems

CERTIFICATIONS & ACHIEVEMENTS

Certifications: [Microsoft Azure AI Engineer Associate](#) | [Azure Data Scientist Associate](#) | [Azure AI Fundamentals](#) | [Oracle Cloud Infrastructure 2024 Generative AI Professional](#)

Achievements: IEEE IC Hackathon 2.0 Finalist (AIR 7/600 teams) | 2nd Position State-level Science Exhibition | Coordinated Bihar's first Atal Tinkering Lab (Niti Aayog funded) | Languages spoken: English, Hindi, Bengali