

# MOHIT KUMAR

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## EDUCATION

<b>Vellore Institute of Technology (VIT Chennai)</b> <i>Bachelor of Technology in Electronics and Computer Engineering</i>   <b>CGPA:</b> Aug 2022 – May 2026 <b>9.08/10.0</b>	Chennai, India
<b>Radiant International School</b> <i>Higher Secondary Education</i>   <b>Class XII:</b> 95.6%   <b>Class X:</b> 94.2%	Patna, India 2019 – 2021

## PROFESSIONAL EXPERIENCE

<b>Shantou University</b> <i>Research Intern</i>	Shantou, China (Remote) 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	IIT Ropar, Punjab (Remote) May 2025 – Jul 2025
<b>Annam.AI</b> <i>Project Intern</i>	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
<b>Samsung R&amp;D Institute India (PRISM)</b> <i>Research Intern</i>	Chennai, India (On-Site) 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	Chennai, India (Hybrid) Jun 2024 – Aug 2024
<b>Center for Cyber Physical Systems, VIT Chennai</b> <i>Research Intern</i>	• 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

<b>Nexus - Multi-Agent AI Research Assistant</b>   <i>Flask, LangGraph, LangChain, WeasyPrint</i>
• 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
<b>Parking Slot Occupancy Detection</b>   <i>PyTorch, Swin Transformer, OpenCV, YOLO</i>
• 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

<b>Programming Languages:</b> Python, Java, C/C++, SQL, Prolog
<b>ML/AI Frameworks:</b> PyTorch, TensorFlow, Scikit-Learn, LangChain, LangGraph, HuggingFace, OpenCV
<b>Tools &amp; Technologies:</b> FastAPI, Streamlit, Git/GitHub, AWS, Azure AI, MongoDB, Jupyter, Docker, Jira
<b>Specializations:</b> Large Language Models, RAG Pipelines, Computer Vision, NLP, Multi-Agent Systems

## CERTIFICATIONS & ACHIEVEMENTS

<b>Certifications:</b> Microsoft Azure AI Engineer Associate   Azure Data Scientist Associate   Azure AI Fundamentals   Oracle Cloud Infrastructure 2024 Generative AI Professional
<b>Achievements:</b> 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