

AMAN KUMAR

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Education

Vidyashilp University *Bangalore, India*
Bachelor of Technology in Computer Science
◦ CGPA: 9.0/10.0

Expected 2026

Professional Experience

Noww Club *Remote*
SDE Intern

Apr 2025 - Present

- Engineered an end-to-end enterprise-level agentic multimodal chatbot with MCP servers catering to lifestyles, currently serving 1000+ active users
- Integrated chatbot into Noww Club application and conducted extensive A/B testing with 200+ users to optimize user experience and performance

UST Hybrid - *Bangalore*
AI/ML Intern

June 2025 - July 2025

- Conducted research on multimodal agentic systems and developed novel model architectures for enhanced AI agent capabilities
- Built and deployed applications leveraging multimodal AI agents for real-world problem solving and user interaction

Indian Institute of Technology Guwahati *Remote*
ML Intern

June 2024 - Aug 2024

- Developed a Deep Learning Model for predicting bounding boxes from masked images using the Liaci Underwater Ship Hull Detection Dataset
- Optimized model accuracy performance from 85% to 89% and decreased inference time by 20% for real-time deployment

Makonis Software Solutions *Bangalore*
AI Intern

May 2024 - July 2024

- Designed and tested IoT product prototypes using ensemble techniques and various ML algorithms for enhanced performance
- Conducted research on AI-driven solutions for predictive analytics and system optimization

Projects

Indian Deepfake Image Detection

2024

Tools: PyTorch, XceptionNet, Custom CNN, Flask/FastAPI, React, MTCNN, YOLOv11

- Engineered and deployed a production-ready deepfake detection system specifically optimized for Indian faces, achieving 99.96% accuracy on a curated dataset of 140,000 images (70K real + 70K synthetic) using advanced CNN architectures and XceptionNet71 with 100% True Negative Rate for fake detection
- Built end-to-end ML pipeline and web application with React frontend and FastAPI backend, implementing automated face extraction using MTCNN/YOLOv11, comprehensive data augmentation strategies, and deployed the solution with real-time inference capabilities serving users via web interface hosted on Render and Vercel

Multimodal Emotion Recognition with Predictive Analytics

2024

Tools: PyTorch, Vision Transformers, LSTM, LoRA Adaptation, TensorBoard, VGG-19

- Architected a sophisticated multimodal emotion recognition system with custom attention mechanisms, implementing FacialRegionAttention, MicroExpressionDetector, and CulturalContextAdapter modules to achieve high-precision emotion classification across 8 emotion classes with advanced data augmentation and mixed-precision training
- Developed predictive emotion analytics pipeline using LSTM networks for temporal sequence modeling to predict next facial expressions, integrated with VGG-19 style transfer network for real-time emotion visualization, and deployed comprehensive dashboard with TensorBoard logging for model interpretability and performance monitoring

Indian Stock Dashboard

2024

Tools: Python, AI Agents, MCP Servers

github.com/mrxvision97/Indian-Stock-Dashboard

- Developed and tested various algorithmic trading algorithms with interactive dashboard for comprehensive stock market analysis
- Implemented stock screeners and utilized MCP servers with AI agents to analyze market sentiments and trading patterns

LLMs-based RAG for ADAS

2024

Tools: LLMs, RAG, Voice Recognition

- Developed a Retrieval-Augmented Generation (RAG) system integrated with Advanced Driver Assistance Systems (ADAS) for vehicle-specific queries and emergency troubleshooting with real-time recommendations
- Implemented voice-based query system with location-based services for enhanced user accessibility and critical situation management in automotive environments

Technical Skills

Programming Languages: Python, R, SQL, Java

Machine Learning & AI: Deep Learning, Machine Learning, NLP, LLMs, AI Agents, Computer Vision

Frameworks & Tools: PyTorch, TensorFlow, Scikit-learn, Langchain, Hugging Face, MCP Servers

Financial Technologies: Algorithmic Trading, Quantitative Analysis, Financial Modeling

Relevant Coursework

Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Generative AI, Large Language Models, AI Agents, Multimodal Systems, Financial Engineering, Quantitative Finance, Risk Management, Algorithmic Trading, Time Series Analysis, Statistical Modeling, Data Mining, Model Optimization, Reinforcement Learning

Honors and Awards

IEEE Leadership Summit 2024 Global Hackathon Winner

2024

- Secured 1st place among 80 teams from around the world at the IEEE Leadership Summit 2024 in Hyderabad

Bhasini Techathon 2024 Winner

2024

- Won 3rd Prize and Special Recognition award at Bhasini Technathon in partnership with Google Cloud and MachineHack

GSTN National Level Hackathon 2024

2024

- Ranked in the top 17 out of 750+ participant teams, awarded INR 25,000 for innovative AI-driven tax solutions

Full Scholarship Recipient

2018 - Present

- Awarded full scholarships by the prestigious Shiv Nadar Foundation throughout secondary education and undergraduate studies