

AMIT KUMAR

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Education

Indian Institute of Technology, Delhi <i>Master of Technology in Engineering Analysis and Design</i>	August 2020 – May 2022 CGPA(8.98/10)
Guru Ghasidas Central University, Chhattisgarh <i>Bachelor of Technology in Mechanical Engineering</i>	August 2015 – May 2019 CGPA(8.03/10)

Experience

HCLTech <i>Technical Lead (AI)</i>	August 2022 – Present
– CodeSense (Cisco) <i>GenAI based Modernization Tool</i>	
<ul style="list-style-type: none">Led the development of a GenAI-driven legacy code modernization tool, utilizing advanced models such as GPT-35, LLAMA2, and VertexAI to automate code documentation and insights extraction, leading to a 40%+ increase in the onboarding of freshers.Integrated a vector database using MilvusDB, embedded 146 million lines of code with the JinaAI model.Implemented keyword-based code search (BM25) and semantic search (RAG) for enhanced code retrieval.	
– Optics (Verizon) <i>Multi-Cloud Cost Optimization Tool</i>	
<ul style="list-style-type: none">Worked on a Python-based interface for manipulating and fetching cloud log data and implemented features for filtering logs and aggregating data, significantly improving the data collection pipeline.Implemented a time series forecasting using Prophet-model (Facebook) to predict resource-wise cloud costs, leveraging historical usage data to provide accurate cost projections and optimize resource allocation.Developed a statistical model for anomaly detection using usage logs, improving monitoring capabilities.	

Technical Skills

- Languages:** Python, SQL, JavaScript, C++, MATLAB
- Technologies:** Data Structure and Algorithms, OOPs, Cloud, RegEx, Relational & Graph Database
- Tools:** Flask, Django, LangChain, Docker, Jenkins, PostgreSQL, ChromaDB, pytest, Neo4j
- AI:** Machine Learning, Deep Learning, Generative-AI (LLMs), Reinforcement learning, Statistics

Projects

ASL Alphabet Recognition System <i>CNN, PyTorch, Python</i>	🌐 ASL-Recognition
<ul style="list-style-type: none">Developed a PyTorch-based CNN model to classify 27,000 American Sign Language alphabet images, utilizing Lexset's Seahaven synthetic dataset.Compared the training loss with different optimization methods such as RMSProp, SGD, and ADAM.	
Simulation through PINN <i>Deep Learning, PyTorch</i>	March 2022
<ul style="list-style-type: none">A mixed variable Physics-informed neural network (PINN) method utilizing PyTorch and Python, employing ADAM optimizer for bias and weights optimization with Tanh activation function.Validated using OpenFOAM simulation data of flow velocity over a circular cylinder.	

Courses and Certifications

Deep Learning Specialization <i>Coursera.org & DeepLearning.AI</i>	Present
Azure AI Engineer Associate (AI-102) <i>Microsoft (link)</i>	November 2023
Azure Fundamentals (AZ-900) <i>Microsoft (link)</i>	March 2023
Deep Learning in Mechanics (APL-745) <i>IIT Delhi semester course</i>	March 2022

Recognitions

Innovation Champions Award <i>HCLTech</i>	October 2023
Prof. R. K. Mittal Excellence Cash Award <i>IIT Delhi</i>	November 2022