

AMIT KUMAR

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Education

Indian Institute of Technology, Delhi

Master of Technology in Engineering Analysis and Design

August 2020 – May 2022

CGPA(8.98/10)

Guru Ghasidas Central University, Chhattisgarh

Bachelor of Technology in Mechanical Engineering

August 2015 – May 2019

CGPA(8.03/10)

Experience

HCLTech | *Technical Lead (AI)*

August 2022 – Present

– **CodeSense (Cisco)** | *GenAI based Modernization Tool*

- 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)** | *Multi-Cloud Cost Optimization Tool*

- 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, MilvusDB, pytest, Neo4j
- **AI:** Machine Learning, Deep Learning, Generative-AI (LLMs), Reinforcement learning, Statistics

Projects

Movie Recommendation System | *Reinforcement Learning, PyTorch*

🐙 GitHub 🌐 Website

- Developed a collaborative reinforcement learning-based recommendation model using PyTorch and the MovieLens dataset, achieving a train and test loss of less than 3%.
- Created a web application allowing users to register, log in, rate movies, receive personalized recommendations, and discover similar movies through the MovieMatch feature.
- Deployed the application on AWS EC2 with Docker and automated CI/CD pipelines using GitHub Actions.

ASL Alphabet Recognition System | *CNN, PyTorch, Python*

🐙 GitHub

- 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.

Courses and Certifications

- Azure AI Engineer Associate (AI-102), Azure Fundamentals (AZ-900)
- Deep Learning Specialization (www.coursera.org), Deep Learning in Mechanics (IITD), Deep Learning for Natural Language Processing (NPTEL)

Recognitions

- **Innovation Champions Award** | *HCLTech* October 2023
- **Prof. R. K. Mittal Excellence Cash Award** | *IIT Delhi* November 2022