Suman Acharya

M.Tech in Data Science , **IIT Palakkad**

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Summary

M.Tech Data Science student with strong mathematical foundations and expertise in deep learning and generative AI. Skilled in designing and implementing AI/ML systems, with hands-on experience in LLMs, generative models, and real-world projects. Committed to leveraging technical knowledge to develop innovative and impactful AI solutions.

Experience

Subject Matter Expert - Mathematics, Chegg India
May 2020 – Apr 2024

Solved and explained a wide range of mathematics problems on the Chegg platform, helping students strengthen conceptual understanding and problem-solving skills.

Teaching Assistant – Introduction to Programming Lab
Jan 2025 – May 2025   IIT Palakkad

Assisted students in Python programming labs by guiding practical exercises, debugging code, and supporting assignment evaluation.

Teaching Assistant – Data Engineering
Jul 2025 – Dec 2025   IIT Palakkad

Supported course delivery by helping students understand ETL processes, SQL, and data pipeline concepts during lab sessions and project evaluations.

Education

- **M.Tech (Data Science)   CGPA: 8.42**
  IIT Palakkad
  08/2023 - 05/2024   Palakkad, Kerala

- **M.Sc in Mathematics   CGPA: 8.88**
  Vidyasagar University
  07/2016 - 05/2020   Paschim Medinipur, West Bengal

- **B.Sc in Mathematics   CGPA: 7.56**
  Vivekananda Satavarshiki Mahavidyalaya
  07/2016 - 05/2020   Paschim Medinipur, West Bengal

Training / Courses

- Machine Learning
- Deep Learning
- Natural Language Processing (NLP)
- Generative AI
- Big Data Analytics
- Probability and Statistics
- Machine Learning System Operations
- Time Series Modeling and Analysis, Data Mining

Key Achievements

- GATE 2024 Mathematics (AIR 245)
- Qualified CSIR-NET in Mathematics (AIR 66)

Projects

YouTube Chatbot using RAG   *Link*
06/2025 - 07/2025

- Developed a chatbot to answer questions from YouTube video transcripts using Retrieval-Augmented Generation (RAG), implementing embedding-based similarity for chunk retrieval and integration with LLMs.

Molecule Generation using Generative AI   *Link*
07/2025 - 07/2026

- Developing a generative AI model for designing structurally valid molecules using VAE, GAN, and MoFlow architectures.

AI Recruitment Agent using LangGraph   *Link*
08/2025 - 12/2025

- Built an AI recruitment assistant leveraging LangGraph and LangSmith to automate the hiring workflow and streamline candidate evaluation.

Home Security System Using Face Recognition *Link*
02/2025 - 05/2025

- Designed a smart home security system using YOLOv8 for person detection, MTCNN for face extraction, and FaceNet embeddings for identity verification.

AI Chatbot with Memory using LangChain and LangGraph   *Link*
07/2025 - 08/2025

- Developed an AI chatbot with persistent memory using LangChain and LangGraph, enabling multi-turn conversations with context retention.

Skills

- **Programming & Scripting:** Python, SQL

- **Machine Learning & AI:** Machine Learning, Deep Learning, NLP, Generative AI

- **Libraries & Frameworks:** Pandas, NumPy, Scikit-Learn, PyTorch, Matplotlib, Seaborn

- **MLOps & Tools:** MLflow, Docker, FastAPI, Git, GitHub

- **AI/LLM Platforms:** LangChain, LangGraph, Pydantic

- **Data Structures & Algorithms:** Core concepts in Data Structures