

SANJAY SHRESTHA

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EDUCATION

+2 SOS Hermann Gmeiner School, Gandaki	2021-2022 GPA: 3.57
Bachelors in Computer Engineering Thapathali Campus, IOE	2023-Present

EXPERIENCE

Research & Development Team ECAST, Thapathali Campus	June 2025 – Dec 2025
- Learning new research in the field of AI, Cybersecurity and much more and educating fellow students on such topics. - Review and present recent research papers and collaborating with other team members in internal projects.	
Graphics Designer ECAST, Thapathali Campus	July 2024 – June 2025
- Applied various Graphics designing tools and techniques to develop interesting and eye-catching banners - Designed 10+ posters and pamphlets for various events and programs. - Learned teamwork, problem solving and effective communication.	

PROJECTS

Fine-tuning Llama-2 7B for Python Code Generation	2025-2026
- We fine-tuned llama-2 7B for python code generation using advance QLoRA approach. - The dataset of python code generation was obtained by refining public available dataset such as Alpaca and Flytech. - We learned the entire workflow for training LLMs such as data augmentation by adding special tokens, GPU parallelism and supervised learning. - The project was successfully deployed on Ollama and model is available in hugging face for everyone to use.	
Protein Function Prediction via GNN and JEPA based Self-Supervised Learning	2026 - ongoing
- Developing a three-stage pipeline for GO term prediction on the CAFA5 benchmark combining geometry-aware graph neural networks (GearNet) with JEPA-based self-supervised pretraining and protein language model embeddings (ESM-2, SaProt) - Applying JEPA pretraining on 141K unlabeled protein structures from the CAFA5 test set using residue-level graphs constructed from AlphaFold predicted structures, with LeJEPA's Gaussian regularization (SIGReg) to prevent representation collapse. - Running full experimental pipeline on Kaggle free-tier GPUs (T4×2) across multiple accounts, demonstrating research-grade results without institutional compute access	
RAG using LangChain and Llama	2025
- LangChain and Llama were implemented to build a locally executable webapp that can read provided document and provide relevant information to the user about the document. - This project was done under “LangChain & Vector Database in Production by Activeloop and Intel Disrupt Initiative”. - This project helped me understand the entire workflow of RAG in Chatbot applications.	

SKILLS AND INTERESTS

Programming:	Python, C++
Frameworks & Libraries:	Django, NumPy, Pandas, Scikit-learn, Tensorflow
Version Control:	Git, GitHub
Interests:	Data Science, AI, Computer Vision, Machine Learning, Problem Solving, Photography

Annual Nepal AI School (NAAMII)

Dec 2025

- Learned about LLMs, Graph Deep Learning
- Learned how research is done in real world and what is considered good research.

Introduction to Artificial Intelligence with Python (Harvard University)

June 2025

- Learned about machine learning algorithms, Probability and statistics, image and language processing
- Actively applied the learned concepts to complete 12 projects
- Actively communicated with people around the globe on various topics learned during this course and helped each other which help build communication skills.

LangChain & Vector Databases in Production (Activeloop & Intel Disrupt)

Jan 2025

- Learned about LangChain Framework and Vector Databases.
- Actively built various application using LangChain and other modules that utilizes the power of LLMs for ingesting information.
- Gained insight about AI Agents and how they function.

REFERENCE

Asst. Prof. Dr. Bipun Man Pati

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