

# Shivam Sourav

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## PROFESSIONAL EXPERIENCE

### Associate Software Engineer Intern

08/2024 – Present

*Nomura Research Institute and Financial Technology*

*On site - Kolkata*

- Automated I-STAR/GV deployment using **Jenkins**, reducing manual intervention by **70%** and ensuring consistent deployment across environments.

### Machine Learning Engineer

11/2023 – 06/2024

*Omdena*

*Remote*

- Collaborated on a state-of-the-art machine learning model to **forecast COVID-19 spread** in Kitwe, Zambia, leveraging **CatBoost** and **XGBoost**, achieving a 95% prediction accuracy.
- Spearheaded the development of predictive models for flood prediction and waterbody forecasting in Bangladesh, utilizing **XGBoost** and **LSTM**, attaining a 92% prediction accuracy.
- Led a cross-functional subgroup of 10 members in **data preprocessing** and **feature engineering**, boosting overall team efficiency by 25% within a 40-member project team.

## EDUCATION

### Sikkim Manipal Institute of Technology

2021 – 2025

*B.Tech in Artificial Intelligence and Data Science*

*CGPA: 9.7*

## PROJECTS

### Nepali LLM - Advanced Nepali Language Model

Repo

- **Innovated a tokenizer** by training a **SentencePiece model** on the Nepali corpus, achieving an **80% reduction in token count**.
- **Optimized Google's Gemma 2 9B model** for language comprehension through continual pretraining on a Nepali corpus with a trained **SentencePiece tokenizer**, achieving a **25% improvement in task accuracy**.
- **Engineered a chatbot** enabling effective textual communication in **Nepali**, boosting user engagement by **30%**.

### Khojo Bhai - AI-Powered Resume Analyzer

Project — Repo

- Designed an AI-driven **resume analyzer** using **Streamlit**, integrating **LlamaIndex**, **HuggingFace embeddings**, and the **Groq** platform, powered by **Meta's Llama-3.1 8B model**, achieving a **40% improvement in resume and jd matching accuracy**.
- Executed in-depth analysis using **TF-IDF**, reducing irrelevant data points by **30%**.

### Brainy-Buddy : RAG-Based Chatbot for Document Interaction

Project — Repo

- Architected a sophisticated NLP-powered **RAG chatbot** with **Streamlit** and **LlamaIndex**, improving **PDF document interaction** and achieving a **35% enhancement in query accuracy**.
- Enhanced document retrieval by integrating **HuggingFace embeddings** with the **Groq** platform, increasing **document indexing efficiency** by **50%**.

### News Headline Generator

- Refined the **Mistral AI 7B LLM model** using **QLoRA (Quantized Low-Rank Adapters)**, achieving **80% headline relevance accuracy**.
- Mobilized **Unsloth** to fine-tune LLMs, improving their performance by 35% across diverse news topics and styles and reducing model training time by **50%**.

## SKILLS

- **Programming Languages & BI Tools:** Python, Java, R, Power BI, Tableau, Looker
- **Frameworks & Technologies:** TensorFlow, PyTorch, Keras, Scikit-Learn, XGBoost, Prophet, Spark, Flask, Streamlit, Gradio, NLTK, Hugging Face, LlamaIndex, Plotly, Matplotlib, Seaborn, Git, GitHub, Apache Tomcat, ActiveMQ, Pandas, Numpy
- **Other Skills:** SQL, MongoDB, Jenkins, Puppet, Leadership, Team Collaboration, Analytical Reasoning