

Firoj Paudel

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EDUCATION

Bachelor of Science in Computer Science and Information Technology **2022 - Present**
Madan Bhandari Memorial College Kathmandu, Nepal

- Areas of Interest: Agents, Calculus, Statistics, AI and Machine Learning

PUBLICATIONS

Fragile Mastery: On Device Language Models 16 March, 2025

- Proposal of Generalized Edge Model (GEM) to optimize on-device language models for resource-constrained edge devices, balancing specialization and generalization across diverse domains.

EXPERIENCE

Co-Founder and CRO **May 2025 - Present**
SAGEA Kathmandu, Nepal

- Working on the development of advanced Text-to-Speech (TTS) models with multilingual capabilities, enhancing speech synthesis accuracy, naturalness, and fluidity across diverse languages and dialects to enable seamless cross-lingual communication
- Researching reasoning models, with a focus on developing concepts like Inverse Reasoning.

Research Scientist **June 2025 - Present**
NeuraGuard Kathmandu, Nepal

- Developed a Multi-Agent Pipeline for Phishing Website Detection**, achieving ~92% accuracy across multiple test datasets from Kaggle.
- Expanding pipeline capabilities** to include email filtering for enhanced security.
- Exploring deep web monitoring** through AI, with a focus on scalability and future implementation.

Data Science and Machine Learning Fellow **April 2025 - July 2025**
Fellowship.ai San Francisco, CA

- Developed a high-accuracy, **interactive web agent for real estate and financial data extraction**, using **Playwright, Chromium, and Pydantic schemas** for local deployment.
- Achieved **87+% accuracy** in automating tasks (clicking, scrolling, form filling) while transitioning from an initial **SmolAgent MVP** to a production-level solution.

SKILLS

- Programming Languages:** *Python*, C++, C, JavaScript, *CUDA*.
- Technologies:** *PyTorch*, *Transformers*, LangChain, Keras, Scikit-learn, Numpy, Matplotlib, Seaborn, Pandas, SQL, Git.
- Languages:** Nepali, *English*, Hindi.

LEADERSHIP EXPERIENCE

General Manager @ MBM IdeaX 2024 **June 2024 - Sep 2024**

- Organized a nationwide **hackathon** in Nepal. My major task was to organize the hackers and my organizing team.

NOTABLE PROJECTS

Brain Tumor Detection

- Created a CNN based project for brain tumor detection from medical MRI images

Fine-tuned Customer Support Chatbot

- Streamlit app using BART-base fine-tuned on Bitext customer support dataset, backed by SQLite3.

**Please visit my portfolio for more info: [Portfolio](#)*