

# Mausam Gurung

mausaam.gurung593@gmail.com | LinkedIn/mausamgurung | GitHub/m9star | mausamgrg.com.np

## Skills

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**Programming:** Python, C++

**ML/DL:** PyTorch, TensorFlow, Scikit-learn, Transformers, CNN, RNN, LSTM, GRU, GANs, NAS

**CV/NLP:** OpenCV, YOLO, NLTK

**LLM:** LangChain, Prompt Engineering

**APIs:** FastAPI, REST

**Cloud:** Azure, MONAI

**Data:** SQL, PostgreSQL, Feature Eng., Visualization

**Tools:** Docker, Git

## Experience

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### Machine Learning Engineer Intern | SocialEyes

Jan, 2026 – Present

*Machine Learning / Medical Imaging*

*Kathmandu, Nepal*

Assisted in training and evaluating deep learning models (ConvNeXt-Tiny, Swin-B, RetFound) on retinal image datasets (AI-READI v3.0, 2,189 subjects, 18K images) for automated biomarker prediction targeting rural LMIC healthcare deployment.

Supported development of a RAG-based medical document intelligence system; assisted in fine-tuning MedGemma VLM for retinal imaging analysis.

Contributed to AI agent pipelines (ARIA-SE, ARIA-RED, ARIA-PUB) for automated experiment management and reporting.

### Robotics Associate | Open Learning Exchange (OLE) Nepal

Apr, 2024 – Feb, 2025

*STEM Education / Robotics | Fellow → Associate*

*Kathmandu, Nepal*

Deployed robotics curriculum in 10 government schools; mentored teachers and students. Installed Linux and robotics software; supported competition logistics and workshops.

### Lab Assistant | Kathmandu Engineering College

Nov, 2024 – May, 2025

*Microprocessor Lab*

*Kathmandu, Nepal*

Conducted Microprocessor lab sessions for BCE, BEE, and BECIE students; guided students in understanding 8085 architecture, developing assembly logic, and writing microprocessor programs on simulators.

### Hardware Lead | Electronic Project Club, KEC

Jul, 2023 – Feb, 2024

*Student Club Leadership*

*Kathmandu, Nepal*

Conducted 5+ hardware workshops on Arduino and circuit design; supervised 30+ student project builds.

## Education

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**Tribhuvan University | Institute of Engineering | Kathmandu Engineering College** Nov, 2019 – Feb, 2025

*B.E. Electronics, Communication & Information Engineering*

*Grade: 72.95%*

**National Examination Board | Everest Innovative College** Jul, 2017 – Apr, 2019

*Higher Secondary (+2)*

*CGPA: 3.51*

**Mechi St. Mary's English Boarding School** Jan, 2006 – Jun, 2016

*SEE / School Level*

*GPA: 3.55*

## Research & Publications

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### Nepscrip-Genesis

Jul, 2025 – Present

Neural Architecture Search for conditional GANs (cGAN) to generate handwritten Nepali numerals; focused on synthetic data generation for OCR and automated architecture optimization.

### Peer-Reviewed Publications

**Machine Learning in Modern Drug Discovery: Applications, Advances, and Future Horizons**

*KEC Journal of Science and Engineering, Vol. 9, Issue 1*

Apr, 2025

Structured ML pipelines across drug discovery stages (target identification, molecular design, ADMET, clinical trials); analyzed deep learning (CNN, GNN, Transformers), generative models (GANs, VAEs), and emerging paradigms including XAI, federated learning, and quantum computing.  
DOI: 10.3126/kjse.v9i1.78373

### **Stock Market Prediction in Nepali Stock Market using Machine Learning Model**

*KEC Journal of Science and Engineering, Vol. 8, Issue 1*

Aug, 2024

Developed BPNN, LSTM, and GRU models on 10-year NEPSE dataset (2013–2023) with 10 technical indicators; applied time-series validation and demonstrated LSTM as best-performing model using RMSE, MAE, MSE, and MAPE.

DOI: 10.3126/kjse.v8i1.69290

## **Projects**

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**Automatic Tomato Harvesting with Machine Learning:** YOLOv4-tiny for real-time detection; integrated a 6-DOF robotic arm for automated plucking. [GitHub]

**Smart Greenhouse for Horticulture:** Arduino-based irrigation system (C++), ESP-8266 for cloud logging, sensors for climate/soil monitoring. [GitHub]

**Document-Based Chatbot:** Document QA (PDF/TXT) with appointment scheduling; implemented with Flan-T5-base and LangChain. [GitHub]

## **Certifications**

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### **Annual Nepal AI School 2025**

*11-days, Training by Nepal Applied Mathematics and Informatics Institute*

Dec, 2025 – Jan, 2026

*Kathmandu, Nepal*

### **PyTorch Meetup Nepal 2025 - Participant**

*PyTorch Community Event at Sunway College Kathmandu*

Dec, 2025

*Kathmandu, Nepal*

### **Micro degree in Artificial Intelligence**

*6 Month, Training by Fusemachines*

April, 2025 – Dec, 2025

*Virtual*

### **Neural Network and Deep Learning**

*Training by Coursera*

June, 2024

*Virtual*

### **Qiskit Global Summer School 2024**

*Training by IBM*

August, 2024

*Virtual*

### **Machine Learning Specialization**

*Training by Coursera*

December, 2024

*Virtual*