Sabin Pokharel

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SUMMARY

Computational Mathematics student with good foundations in mathematics and programming. Certified in LangGraph, experienced in CNNs, and agentic workflows. Proficient with Python, TensorFlow, and Keras. Seeking to develop innovative AI solutions for real-world problems in dynamical systems, control, and computational biology.

EDUCATION & CERTIFICATIONS

Kathmandu University   Expected 05/2027
Bachelor of Science in Computational Mathematics

- Current Status: 6th Semester (3rd Year)
- Mathematics: Calculus, Advanced Calculus, Analytical Geometry, Statistics & Probability, Linear Algebra, Matrix Theory, Complex Variables
- Computer Science: Programming, Object-Oriented Programming, Data Structures & Algorithms, Digital Logic, Computer Networks, Database Management Systems, Computer Architecture, Theory of Computation
- **Certifications:**
  - Associate Data Scientist (DataCamp) - In Progress

SKILLS

- Python, C++, JavaScript, HTML, CSS, SQL
- TensorFlow, Keras
- Neural Networks, CNN, LangGraph
- NumPy, Pandas, Matplotlib, Seaborn, SciPy, MATLAB
- OpenCV, Image Processing, Feature Extraction, Generative AI
- Git, GitHub, Docker, Linux, Cloud Computing
- n8n, Figma

PROJECTS

- **Knowledger Retrieval and Reasoning System — LangGraph, Langchain, Elastic Search, Tavily**
  - Developed a knowledge retrieval and reasoning system using LangGraph and Langchain for efficient information retrieval
  - Integrated Elastic Search for fast and scalable search capabilities
  - Utilized Tavily Search API for real-time web search and information extraction
- **Mushroom Classification System — Python, TensorFlow, CNN, Docker**
  - Developed a machine learning model to classify mushroom images as edible or poisonous using convolutional neural network architecture
  - Achieved 66% classification accuracy without data augmentation, demonstrating strong baseline performance
  - Implemented data augmentation techniques using TensorFlow and Keras to enhance model generalization
- **News Research Automation — n8n, Agentic Workflows, API Integration**
  - Designed and implemented agentic workflows in n8n for automated news research and content aggregation
  - Created an efficient system for collecting, processing, and analyzing news data for research purposes
- **Obsidian-to-Anki Flashcard Plugin — Python, Node.js, API Integration**
  - Created an integration tool to convert Obsidian notes to Anki flashcards for enhanced learning efficiency
  - Built core functionality in Python for seamless execution within Obsidian app
- **News Reader Application — Data Structures, Algorithms, Git**
  - Engineered a news aggregation application using efficient data structures and algorithms for optimized performance
  - Designed database schema for storing and retrieving news content with minimized latency

LEADERSHIP

Kathmandu University Mathematics Student Club   Current
Treasurer

- Manage budget planning and financial operations for academic and professional development events
- Negotiated and secured partnership with Perplexity AI providing merch and resources to club members
- Organized technical hackathons focusing on computational solutions and machine learning applications