PRASHANT ARYAL
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PERSONAL STATEMENT

I have recently finished my undergraduate's degree in Bachelor of Science in Computer Science and Information Technology from St. Xavier's College, Tribhuvan University in Kathmandu, and currently, looking for an Associate level position in the field of Artificial Intelligence and Machine Learning. I am a 23-year-old tech enthusiast from Syangja, Western Nepal. Always eager to learn and adapt, I enjoy tackling tech related challenges and finding solutions. I am confident in taking on new responsibilities in my field and am driven by a passion for turning data into actionable insights.

ACADEMIC QUALIFICATIONS

Bachelor of Science in Computer Science and Information Technology, 2019-2024

St. Xavier's College, Tribhuvan University, Kathmandu, Nepal
Major courses: Database Management System, Artificial Intelligence, Design, Analysis and Algorithm and Data Warehousing & Data Mining, Data Structure and Algorithm

Higher Secondary School (Grade XI & XII), 2017-2019

National School of Sciences (NIST), Lainchour, Kathmandu, Nepal
Major courses: Physics, Chemistry, Mathematics, Computer Science

Secondary Education Examination, 2017

Siddhartha Vanasthali Institute (SVI), Balaju, Kathmandu

INTERNSHIPS

AI Research Intern, Sajilo Ventures Pvt. Ltd., March 2025 – Present

- ❖ Researching and implementing image data preprocessing and augmentation techniques for multi-label classification in deep learning projects. Gained an understanding of MLOps workflows for deploying and managing deep learning models.
- ❖ Learning to build retrieval-augmented generation (RAG) systems, gaining hands-on experience in integrating document retrieval, vector search, semantic text embeddings, and local large language models (LLMs).

Data Science Intern (Virtual), CodSoft, November 2024 – December 2024

- ❖ Worked on multiple practice-oriented data science projects, developed machine learning models for classification, regression, and predictive analytics using Python, Scikit-learn, and Pandas.
- ❖ Focused on data cleaning, feature creation, and model evaluation, gained experience in using advanced methods on practice datasets to solve real-world data problems.

Software Intern, LIS Nepal Pvt. Ltd, March 2024 - June 2024

- ❖ Worked on data integration projects using Workato, focusing on retail operations such as order management systems (OMS) and transfer processes to optimize inventory and warehouse management between 3PL provider and Shopify for Bluemercury, a US-based luxury cosmetics retailer.
- ❖ Developed knowledge in Python, SQL, Data Warehousing, and ETL (Extract, Transform, Load) processes.
- ❖ Contributed to testing processes, prepared UTDs (User Test Documents), and enhancing quality assurance efforts.

PROJECTS

BudgetGPT: Nepali Fiscal Policy Chatbot

- ❖ Developed an AI chatbot to answer queries related to Nepal's national budget, offering fast access to fiscal data from the official Nepal Government Budget speech (English and Nepali version) through semantic search powered by FAISS.
- ❖ Integrated LangChain, HuggingFace embeddings (BAAI/bge-m3 for English and All-MiniLM-L6-v2-Nepali for Nepali), CTransformers, LlamaCpp and FAISS to enable efficient large language model (LLM) inference and accurate bilingual text generation across both Mistral-7B (for English) and Nepali-LLM-Instruct (for Nepali).
- ❖ Deployed a Flask-based web application with a responsive UI, enabling multiple user queries in a single session and maintaining in-memory chat history.
- ❖ **Technology Used:** Python, LangChain, HuggingFace, FAISS, CTransformers, LlamaCpp, Mistral-7B (GGUF), Nepali-LLM-Instruct (GGUF), Flask, langdetect, PyPDF2

SmartAgro: Plant Leaf Disease Classification System

- ❖ Developed a Plant Disease Classification system using Convolutional Neural Network (CNN) architectures such as ResNet-50V2 and VGG-19 to classify diseases affecting plant leaves, demonstrating their effectiveness in agricultural image classification. Additionally, the ResNet-50V2 model was integrated into a Flask-based web application, offering farmers and agricultural experts a user-friendly interface to access and utilize the system for disease diagnosis and management.
- ❖ **Technology Used:** CNN, TensorFlow, Transfer Learning- ResNet-50 and VGG-19, Google Collab, Flask

Email Spam Classifier using Machine Learning

- ❖ Applied machine learning algorithms to tackle spam classification problems, focusing on comparing their performance to gain deeper insights into the issue. Additionally, a simple web application was designed using Flask, leveraging the **Multinomial Naive Bayes Algorithm** for its high accuracy in effectively filtering email spams.

Diabetes Prediction using Machine Learning

- ❖ Utilized the **K-Nearest Neighbors Classifier** to develop a model that incorporates various parameters such as glucose levels, blood pressure, skin thickness, insulin levels, and body mass index to predict whether an individual has diabetes.

RESEARCH

Leveraging the performance of Deep Learning Models for Corn Leaf Disease Diagnosis using DenseNet201 and Xception - Ongoing

- ❖ Developing and evaluating CNN architectures, such as DenseNet201 and Xception, for classifying corn leaf diseases, assessing their practical applicability and performance for real-world use.
- ❖ Applying transfer learning to pre-trained models on a domain-specific dataset to determine their effectiveness in enhancing disease classification accuracy.

TECHNICAL SKILLS

- ❖ **Languages:** Python, C, OOP with C++, C#
- ❖ **Familiar:** SQL, Snowflake, SSIS, Excel, Power BI, Statistics, Jupyter Notebook, SDLC
- ❖ **DevOps Tool:** GitHub
- ❖ **Libraries/Frameworks:** NumPy, Pandas, seaborn, Matplotlib, Scikit-Learn, TensorFlow
- ❖ **AI:** LLM, Machine Learning, CNN, Deep Learning, RAG, Semantic Search, HuggingFace Transformers
- ❖ **Tools & Platforms:** HuggingFace, CTransformers, VS Code, Google Colab

COURSES & CERTIFICATION

- ❖ **Workato's Automation Pro I, II, and III (Workato Automation Institute)**
- ❖ **SQL Proficiency:** Introductory to Advanced Data Manipulation (DataCamp)
- ❖ **Intro to LLMs (365 Data Science)**
- ❖ **Introduction to Data Science (SkillUP by Simplilearn)**
- ❖ **Introduction to Python (DataCamp)**
- ❖ **Introduction to Data Warehousing (DataCamp)**

OTHER INFORMATION:

- ❖ **Soft Skills:** Teamwork, Leadership, Hardworking, Problem Solving, Adaptability
- ❖ **Hobbies:** Football, Cricket, Table-Tennis, Music, Traveling, Hiking and Trekking
- ❖ **Languages:** English, Nepali, Hindi

Declaration:

I hereby declare that the details furnished above are true and correct to the best of my knowledge and belief.