Manjil Budhathoki

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Summary

Aspiring AI/ML Engineer with a strong foundation in computer science and hands-on experience in developing innovative models, including deforestation detection. Proficient in Python, TensorFlow, PyTorch, and modern ML frameworks, with proven skills in data curation and algorithm optimization. Eager to contribute to advanced AI solutions and build scalable applications using backend tools and LLM frameworks.

Languages

- Nepali (Native)
- English (Fluent)

Skills

- **Languages**: Python, SQL
- **ML/DL Libraries**: Pytorch, TensorFlow, Keras, Scikit-learn, XGBoost, LightGBM
- **NLP Tools**: BERT, GPT, Word2Vec, GloVe, Tokenization, NER, Sentiment Analysis, Text Classification
- **Data Tools**: Pandas, NumPy, Matplotlib, Seaborn
- **Backend & APIs**: FastAPI, Flask, Django, Redis
- **Platforms & Dev Tools**: Jupyter Notebooks, Git/GitHub, Docker, Airflow
- **Concepts & Techniques**: Supervised & Unsupervised Learning, Deep Learning (CNNs,RNNs, Transfer Learning), Hyperparameter Tuning, Cross-Validation, Transformers, Model Evaluation(Accuracy, F1, AUC), Feature Engineering

Projects

Deforestation Surveliance with Audio Classifier | GitHub

- Developed a custom audio classification model using the pre-trained YAMNet architecture to identify deforestation-related sounds with 92% accuracy and 88% recall.
- Collected and curated a specialized Nepali audio dataset focusing on axe-chopping sounds for effective real-world deforestation surveillance.

Loan Approval Prediction with CatBoost | GitHub

- Built a CatBoost model to predict loan approvals based on applicant features like income, credit history, and education.
- Preprocessed data, trained the model, and generated prediction outputs in a production-ready pipeline.

Iriscope – Unsupervised ML Playground | View

- Built an interactive web app to visualize K-Means clustering with 3D simulation and notebook-style explanations.
- Designed a Web3-inspired UI with React, Three.js, and Tailwind CSS for immersive unsupervised learning exploration.
- Implemented typing animation, creative/technical font toggle, and dynamic visual storytelling.

End-to-End MLOps Prediction Pipeline | GitHub

- Architected and built a full-cycle MLOps pipeline to automate the training and deployment of a revenue prediction model.
- Orchestrated a multi-stage data workflow (ingestion, validation, preprocessing) using Apache Airflow, ensuring a reliable and reproducible feature engineering process.
- Developed and containerized a REST API using FastAPI and Docker to serve real-time model predictions, achieving a fully portable and scalable solution.
- Deployed the containerized application to the cloud using Render, establishing a CI/CD pipeline for automatic updates on code changes.
- Integrated MLflow for comprehensive experiment tracking, logging model parameters, performance metrics, and artifacts to ensure model versioning and reproducibility.

Education

Sunway College Kathmandu   **Nov 2023 - Present**
BSc (Hons), Computer Science and Artificial Intelligence   *Maitidevi, Kathmandu*

- **Achievements:** 1st Runner Up - AI Ideathon 2023, Innovation Fest 2024 Sunway College Kathmandu Gold Medalist
- **Coursework:** Computer Systems, Computer Programming with Python, Website Design and Development, Data Structure and Algorithms with Python, Introduction to Artificial Intelligence, Innovation Project, Git & React, Probability and Statistics, Power BI, Object Oriented Programming (Java), Database and Web Application Development, Artificial Intelligence and Machine Learning , Cyber Security, Software Design, Data Management and Machine Learning Operations, Django, Linear Algebra

Morang Model College   **Apr 2020 - Sep 2022**
High School   *Morang,Nepal*

- **GPA:** 3.46

Awards

- Gold Medal At Innovation Fest 2024
  Sunway College Kathmandu
  28/07/2024
- 1st Runner Up - AI Ideathon 2023
  Sunway College Kathmandu
  10/2023