Arun Pandey Laudari

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EDUCATION

Lumbini ICT Campus , Tribhuvan University
Bachlore of Computer Application

Expected Graduation: 2026
Nepal

Aroma College
Higher Secondary Certificate (Science), GPA: 3.43

Graduated: 2021
Nepal

TECHNICAL SKILLS

- **Programming Languages:** Python, SQL, Java, PHP, C, JavaScript, HTML/CSS

- **Frameworks & Libraries:** Pandas, NumPy, Seaborn, Matplotlib, scikit-learn, TensorFlow, Keras, NLTK, Lamaparser, Huggingface, LangChain, LangGraph, AGno, CrewAI, Streamlit, FastAPI, Flask, Django, Laravel, Tailwind CSS

- **Tools & Platforms:** Git, GitHub, Postman, Docker, Jupyter Notebook, VS Code

- **Databases:** PostgreSQL, MySQL, SQLite

- **AI & Data Science Concepts:** Data Analysis, Data Visualization, Machine Learning, Deep Learning, Neural Networks, Transformers, Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Multi-Agent Systems

PROJECTS

Rural Health AI – Smart Healthcare Solutions | *Django, LangGraph, ChromaDB, Google GenAI, SerpAPI, Celery, Redis, PostgreSQL*
- Built an Agentic RAG-powered Django platform offering AI-driven healthcare support for rural communities.
- Integrated LangGraph agents with ChromaDB and SerpAPI for adaptive retrieval and multi-step reasoning.
- Implemented role-based modules for chatbot, appointments, awareness campaigns, and document management.
- Optimized performance using Celery with Redis for background tasks and TailwindCSS for responsive UI.

Agentic RAG Using LangGraph | *Python, LangChain, HuggingFace, LangGraph, Gemini, RAG, SerpAPI, FastAPI, React*
- Engineered an end-to-end Agentic RAG pipeline integrating LangGraph agents for adaptive document retrieval and fallback web search via SerpAPI.
- Implemented semantic retrieval using Gemini vector store to enhance contextual awareness and response precision.
- Developed a full-stack system with FastAPI backend and React frontend for real-time query interaction and intelligent answer delivery.

SQL Sage Intelligent DB Agent | *Python, LangChain, HuggingFace, LangGraph, GROQ, RAG, SQLite, Streamlit*
- Developed an intelligent database assistant that converts natural language queries into optimized SQL statements with automatic schema validation.
- Implemented dynamic schema exploration and intelligent query correction to ensure accuracy and reduce SQL errors.
- Built a multi-agent fault-tolerant architecture using LangChain, LangGraph, and RAG for reliable conversational SELECT querying.
- Created both Streamlit and CLI interfaces for real-time database querying and analytics visualization.

Multi-Document Chatbot | *Python, LangChain, LlamaParse, HuggingFace, Chroma, Groq LLM, RAG*
- Built a multi-format document chatbot supporting PDF, DOCX, PPTX, XLSX, Markdown, and TXT files using robust fallback loaders.
- Used HuggingFace embeddings with persistent Chroma vector store for fast semantic retrieval and contextual responses.
- Integrated SelfQueryRetriever with metadata filtering and Groq LLM for accurate and grounded query responses.
- Enabled multi-turn conversational memory with custom prompting to reduce hallucination and improve consistency.

Customer Churn Prediction System Using ANN | *Python, TensorFlow, Keras, Scikit-learn, Streamlit*
- Developed an end-to-end customer churn prediction pipeline using Artificial Neural Networks (ANN) with TensorFlow and Keras.
- Implemented data preprocessing with feature scaling, one-hot encoding, and model persistence for reproducibility.
- Built an interactive Streamlit dashboard for real-time churn prediction and customer segmentation visualization.
- Optimized model performance through hyperparameter tuning, early stopping, and TensorBoard-based monitoring.

Movie Recommendation System | *Python, Flask, Scikit-learn, Pandas, NumPy, TMDB API, Docker*
- Developed a content-based movie recommender using TF-IDF vectorization and cosine similarity.
- Processed TMDB metadata to extract key features (genres, keywords, overview) for accurate recommendation matching.
- Integrated TMDB API for dynamic poster retrieval and implemented autocomplete for enhanced UX.
- Containerized and deployed using Docker and Gunicorn for scalable production serving.

Customer Segmentation Using K-Means Clustering | *Python, Scikit-learn, Pandas, Matplotlib, Seaborn, Streamlit*
- Built an end-to-end customer segmentation system using K-Means clustering to identify actionable behavioral groups.
- Performed data cleaning, feature scaling, and selection for robust clustering outcomes.

- Used Elbow and Silhouette methods for optimal cluster validation and model interpretability.
- Created an interactive Streamlit interface to visualize clusters and generate data-driven marketing insights.

Predicting Diabetes with Logistic Regression | *Python, Scikit-learn, Pandas, Seaborn, Flask*
- Developed a logistic regression-based predictive model for assessing diabetes risk from patient health data.
- Performed data preprocessing, outlier handling, and feature engineering to improve accuracy and stability.
- Trained and validated models with feature scaling and class balancing to enhance prediction reliability.
- Integrated model inference into a Flask-based web app for real-time health risk assessment and interpretability.

ACHIEVEMENTS & CERTIFICATIONS

Complete Data Science, Machine Learning, Deep Learning, and NLP Bootcamp – Udemy course by Krish Naik; covered end-to-end data science pipelines, model deployment, and NLP techniques. *2025*

Machine Learning, Deep Learning, and RAG Frameworks Course – Conducted by Abinash Pant (AI/ML Engineer); focused on building intelligent agents with LangGraph, Agno, and Retrieval-Augmented Generation (RAG) architectures. *2025*

Mentor – Chitwan Utsav 2.0 Hackathon – Guided participants in designing AI-driven solutions and integrating ML models into functional prototypes. *2025*

Hackathon Winner – United Technical College – Recognized for excellence in innovation, technical problem-solving, and teamwork among top participants. *2024*