

Hyandri Maharjan

Lalitpur | handrymaharjan23@gmail.com | 984198569 |
linkedin.com/in/hyandri-maharjan | github.com/hyandri

Summary

AI-oriented Computer Science major with experience in Python, PyTorch, Django, fastAPI, and computer vision (YOLOv8, OpenCV, MediaPipe). Constructed real-world applications such as a voice-enabled Nepali agricultural assistant (LangChain + Scikit-learn) and an elderly care fall detector. Full-cycle development experience: data preprocessing, model prototyping, and deployment using Django.

Skills

- **Languages:** Python, SQL, JavaScript, HTML/CSS
- **AI & Machine Learning:** PyTorch, NLP, RAG, Computer Vision, Prompt Engineering, Pandas, NumPy
- **Web Development:** Django, React.js, FastAPI, REST APIs
- **Data Engineering & Tools:** Apache Airflow, Redis, Git, Docker, PostgreSQL
- **Design & Documentation:** UML, LaTeX
- **Soft Skills:** Problem-solving, Design Thinking, Team Collaboration, Adaptability, Learning Agility

Experience

Executive member, Social Club, SSRC – Sunway College Feb 2025 – Jan 2026

- Collaborated with team members to plan and execute multiple club events, handling scheduling, resource allocation, and day-of coordination.
- Facilitated communication within the executive team, leading to more effective decision-making and enhanced collaboration with other clubs.

Projects

Hybrid Biomedical RAG Architecture | GitHub

- Built an advanced hybrid Retrieval-Augmented Generation (RAG) pipeline to cross-reference dense medical literature from oncology and cardiology, implementing a sentence-boundary chunking strategy that maintained multi-clause continuity and enhanced faithfulness of the system from 0.475 to 0.725.
- Implemented hybrid search pipeline using dense (Pinecone, MMR) and sparse (BM25) approaches coupled with a Cohere v3 cross-encoder to prevent the vector space from getting too cluttered as the database size grew.
- Tools Used: Python, FastAPI, Groq (Llama 3.3), Pinecone, Cohere Rerank, Rank-BM25, SQLite

Bike Sharing Demand MLOps Pipeline | GitHub

- Developed an end-to-end MLOps pipeline for bike sharing demand prediction with a fully containerised Docker Compose stack, including data ingestion, star schema design, feature engineering, model training, deployment and monitoring.
- Generated an R^2 of 0.91 on a temporally separated test dataset through XGBoost and feature engineering with cyclical encoding of time, rush hour flags, and interactions with weather variables.
- Tools Used: Apache Airflow, MariaDB ColumnStore, MLflow, FastAPI, Evidently, Great Expectations, Docker.

Fall Detection Computer Vision | GitHub

- Developed a real-time **fall detection** system using YOLO for human pose and motion analysis from video streams. Focused on improving detection accuracy and responsiveness for safety monitoring applications.
- Tools Used: Python, YOLOv8, OpenCV, MediaPipe

Karyafy - Event Management System | GitHub

- Developed a full-stack web application with role-based access control, enabling administrators to publish events, configure pricing tiers, and monitor attendee registrations, while allowing users to securely browse, purchase

tickets, and manage bookings.

- Tools Used: PHP, MySQL, Bootstrap

Education

Sunway College, BSc. (Hons) in Computer Science and Artificial Intelligence

Nov 2024 – Present
(Expected 2028)

Blog Writing

Greedy Algorithms: Practical Applications in Scheduling, Pathfinding, and Resource Allocation

May 2025

Published on Medium

Workshops

Data Fellow

- Gained free access to premium DataCamp courses, completing modules in Machine Learning, Data Visualization, and more. Currently pursuing the **Data Analyst** career track to strengthen practical data analysis skills.

Design Thinking

- Participated in a Design Thinking Workshop focused on enhancing creativity, problem-solving, and entrepreneurial skills. Gained hands-on experience in user-centered design, ideation, and innovative solution development.

Invited Presentations

Automated Melanoma Detection via Image Processing

Slides

Invited to deliver a talk to the 2024 batch at **Sunway College** as part of a classroom session.