Aayush Timalsina

Junior Developer

aayushtimalsina2@gmail.com (+977) 9849045119 Bagmati, Nepal

timalsinaaayush.com.np https://www.linkedin.com/in/aayush-timalsina-b479742b0/

PROFILE

Final-year CS student specializing in backend engineering and AI systems. Experienced in building scalable REST APIs, vector search pipelines, and production-grade backend architectures. Strong in FastAPI, Django, PostgreSQL, and AI/ML pipelines.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C#

Backend: FastAPI, Django, ASP.NET Core, REST API Design, PostgreSQL, SQL Server, JWT/OAuth2

Frontend: React.js, HTML5, CSS3, Tailwind CSS

AI & ML: Computer Vision, LLMs, NLP, HuggingFace, PyTorch, ONNX Runtime, ArcFace, YOLO, FAISS, HDBSCAN, OpenCV, Langchain

Cloud/Deployment: Azure, Firebase (Basic), Vercel, Railway, Render, Cloud Storage (S3-compatible workflows)

EXPERIENCE

Al Engineer Intern, *BlueNeon Tech | Fotosfolio.com* 08/2025 – Present
Bhaktapur, Nepal

- Developed an optimized face recognition pipeline reducing end-to-end latency by 38% through ONNX inference tuning and batch processing.
- Integrated YOLOv8n-face + ArcFace ONNX, improving detection precision and generating embeddings 25% faster.
- Engineered FAISS-based vector search achieving sub-10ms similarity lookup across thousands of embeddings.
- Implemented HDBSCAN clustering with adaptive thresholds, improving automated grouping accuracy by ~18%.
- Designed modular pipeline architecture enabling rapid model swaps and scalable component reuse.
- Profiling + optimization eliminated CPU bottlenecks, boosting throughput under high-load scenarios. Skills: FastAPI, ONNX Runtime, ArcFace, YOLOv8n-face, FAISS, HDBSCAN, Numpy, OpenCV, System Optimization

Backend Developer, *BlueNeon Tech | Sawariexpert.com* 03/2025 – 08/2025
Bhaktapur, Nepal

- Designed normalized data models reducing redundant queries by 40% and improving search efficiency.
- Built scalable backend modules enabling real-time car comparison and dynamic content rendering for thousands of users.
- Implemented API-level caching reducing load time by up to 60% on high-traffic endpoints.
- Tuned database queries and indexing, resulting in significant latency reduction on complex filters.
- Developed secure content admin workflows enabling continuous updates without service downtime. Skills: Data Modeling, Query Optimization, API Design, Caching, Performance Engineering

PROJECTS

AI-Powered Adventure Game — FastAPI | React | LangChain | PostgreSQL

- Designed an async-first FastAPI backend reducing generation latency by **40%** across story branches.
- Implemented a modular narrative engine supporting 6+ dynamic story themes with real-time LLM generation.
- Built a responsive UI featuring state persistence, progressive loading, and failure-safe retries.

Fake News Classification — NLP | Machine Learning
- Engineered a TF-IDF + Logistic Regression pipeline achieving **93% accuracy** with stable F1-score across folds.
- Built an evaluation interface exposing prediction confidence, token-level weights, and preprocessing artifacts.
- Applied optimized text-cleaning pipeline improving model signal-to-noise ratio and reducing feature sparsity.

ChatDjango (Real-Time Messaging Platform), *GitHub*
- Built a low-latency chat UI featuring real-time updates, typing indicators, read-state tracking, and smooth scroll sync.
- Implemented secure WebSocket communication enabling authenticated, persistent connections.
- Scaled message throughput using Channels + async workers for stable performance under load.

ACHIEVEMENTS

- Improved AI embedding pipeline throughput by ~35% using ONNX optimization + batch inference.
- Designed high-accuracy vector search engine supporting thousands of embeddings with sub-10ms response times.
- Built full-stack AI storytelling system with measurable 40% improvement in API latency.
- Delivered production-ready ASP.NET Core e-commerce API with payment processing and secure role-based access.
- Implemented real-time communication system using Channels with reliable stateful message delivery.

EDUCATION

Patan Multiple Campus, 2021 – Present
Bachelor of Science in Computer Science and Information Technology (BSc.CSIT) Lalitpur, Bagmati
(Expected Graduation: 2026)

D.A.V College, *D.A.V College +2 (Science with CS)* 2077
Passed Year-2077(3.55 GPA) Jawalakhel, Kathmandu

LANGUAGES

- English (Proficient), Nepali (Native), Hindi