

Aayush Neupane

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EDUCATION

- **University of Kansas** Lawrence, KS
Master of Science in Computer Science Aug 2025 – Present
- **Pulchowk Campus, IOE, Tribhuvan University** Lalitpur, Nepal
B.E. in Computer Engineering; Full Scholarship; Percentage: 79.23% Sept 2019 – Apr 2023

EXPERIENCE

- **University of Kansas** *Graduate Teaching Assistant* Aug 2025 – Present
 - **Teaching Labs:** Conduct weekly labs on C/C++, Git, and Docker for 30+ undergraduate students; also grade assignments, in-class problems, and labs.
- **Smart Data Solutions** *Software Engineer I, Machine Learning* Jan 2024 – Jul 2025
 - **Medical Record Processing:** Developed intelligent system using LayoutLM and Large Language Models to extract key information from healthcare documents, including insurance claims.
 - **Model Optimization:** Finetuned Qwen LLM for CMS1500 claims, improving efficiency from 60s per document to 4 docs/60s with 90% accuracy, automating work previously done by human keyers.
- **Naamche** *Machine Learning/Backend Engineer* Jun 2023 – Dec 2023
 - **RAG-based LLM Chatbots:** Built chatbots for real estate in Florida and university extension centers in the US using RAG framework; collected, cleaned, and indexed data in vector database.
 - **Deployment and Guardrails:** Implemented chatbots capable of providing recommendations and suggestions with guardrails; developed and deployed APIs using FastAPI for production use.
- **LOCUS 2023** *Technical Coordinator (Part-time / Volunteer)* Mar 2022 – Feb 2023
 - **Student Leadership:** Organized nationwide tech events, workshops, and hackathons; led the software team to develop and maintain the LOCUS website and online certification system.
 - **Workshops:** Designed and conducted a 10-day intensive fellowship program training 120+ freshmen, sophomores, and juniors in software engineering principles, covering Git, Docker, programming, deployment, and data analysis.

PROJECTS

- **Receipt Scanner - Website:** Transformer-based key information extraction system, initially funded by document AI company Docusmo and later launched as SaaS (EaseAnnotate), supported by Microsoft for Startups.
- **Real-time Text Similarity - GitHub:** LICT-funded project where we built a system for searching similar documents using embeddings and a vector database. Implemented sentence embeddings with BERT, TF-IDF, and SIF.
- **Online Certification System - GitHub:** Developed Django + OpenCV platform for LOCUS (student org for hackathons/workshops) enabling automated certificate generation; deployed on Azure.
- **Anubadak - GitHub:** C++ interpreter for a 'B'-like language; demonstrated OOP and Theory of Computation concepts with lexical/semantic analysis and AST construction.
- **Sorting Visualizer - GitHub:** A C++ sorting visualizer showcasing algorithms such as Quicksort, Mergesort etc.

PUBLICATIONS

- Aayush Neupane, Aayush Lamichhane, Anikit Poudel, Dr. Aman Shakya. "Structured Information Extraction from Nepali Scanned Documents using Layout Transformer and LLMs." CHIPSAL, COLING 2025, Abu Dhabi, UAE.

SKILLS

Languages: Python, C/C++, JavaScript, Java
Backend: FastAPI, Django

ML/AI: PyTorch, TensorFlow
Tools/Cloud: Git, Docker, Linux, AWS, GCP, Azure

HONORS & AWARDS

- Nationwide Rank 56 in IOE Engineering Entrance Exam (16000+ candidates).
- High School Valedictorian – 1st rank among 200+ students, VAHSS (2018).