

EDUCATION

University of Nebraska Omaha, USA

- M.S. Computer Science (GPA: 4.0)

Jan 2024 — Dec 2025 (Expected)

Institute of Engineering, Pulchowk Campus, Tribhuvan University, Nepal

- B.E. Electronics and Computer Engineering (Summa cum laude, 1st in class)

2016 — 2021

EXPERIENCE

Graduate Research Assistant

Jan 2024 — Present

University of Nebraska Omaha, USA

- Developed a system that analyze the data from waist-mounted triaxial accelerometer and generates an activity profile of a person. Computed energy expenditure to find the correlation between hearing loss and mobility of aging agricultural farmers.
- Utilized feature selection and machine learning techniques to classify different types of activities using data collected from wrist-based accelerometer improving accuracy from 85% to 94%.

Software Engineer - Machine Learning

Aug 2023 — Dec 2023

Coac GmbH, Berlin, Germany

- Led a team of four to create a RAG-based question answering system to query on private documents and databases. Implemented efficient APIs with token-based authentication collaborating with the frontend team.

Software Engineer - Artificial Intelligence

Jun 2022 — Jul 2023

Dogma Group, Kathmandu, Nepal

- Led the project to develop a system that ranks the clients based on Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) data.
- Designed a system that extracts header, footer, and table information from purchase invoices & deployed it to production reducing manual extraction time by 40%. Fine-tuned LayoutLM model for header / footer information and table transformer model from Microsoft for table extraction on in-house manually annotated data.

Software Engineer - Machine Learning

Apr 2020 — Jun 2022

Fusemachines, Kathmandu, Nepal

- Led the project to develop a classification model to detect fake Louis Vuitton, Chanel, and Gucci bags from the real ones. Located different areas of interest in the images to extract meaningful information, improving sensitivity from 90% to 95% and specificity from 87% to 95%.
- Created a system to rank the resumes of candidates based on the job description that achieved an overall recall of 84%. Experimented and evaluated the results of keyword-based and transformer-based named entity recognition to extract relevant skills from resumes.
- Developed AI-enabled product to automate information extraction from handwritten forms. Improved Nepali OCR system for handwritten texts from 27% to 15% character error rate with regularization, hyperparameter tuning, and error analysis. Also, worked on information extraction from PDFs using classical image processing and deep learning techniques.
- Selected among the top 25 students out of 1000+ applicants for the AI Fellowship program.

Software Engineer - Freelance

Jan 2020 — Mar 2020

ASMI, Nepal

- Apply OCR and object detection models to extract information from images of mathematical questions. Fine-tuned Yolov5, single-shot detection and faster RCNN models for bounding box detection.

Software Developer Intern

Sep 2019 — Dec 2019

Genese Software Solution, Lalitpur, Nepal

- Worked with EC2, AWS lambda, S3, Amazon ECR, Amazon Sagemaker, Amazon Rekognition, and Amazon Lex.

SKILLS

Programming Languages: Python, C, C++, SQL, JavaScript (Familiar)

Machine Learning / Deep Learning: Natural Language Processing, Computer Vision, LLM, Neural Networks, Information Retrieval

Frameworks & Tools: Pytorch, Tensorflow, Numpy, Pandas, Matplotlib, OpenCV, Spacy, NLTK, CometML, Langchain, Unix/Linux

Web Development: Django, Rest framework, Flask, Fastapi, Streamlit, HTML, CSS, Bootstrap, ReactJS (Familiar)

Database: MySQL, MongoDB, Chroma, Redis

Deployment: Docker, AWS, Azure (Familiar)

PUBLICATIONS

- Awale, N.**, Pandey, M., Dulal, A. & Timsina, B. (2020). Plagiarism Detection in Programming Assignments using Machine Learning. Journal of Artificial Intelligence and Capsule Networks, 2(3), 177-184. doi:10.36548/jaicn.2020.3.005
- Buddhacharya, S. & **Awale, N.** (2022). CNN-Based Continous authentication of Smartphone using Mobile Sensors. International Journal of Innovative Research in Advanced Engineering, 9(8), 361-369. doi:10.26562/ijirae.2022.v0908.37

PROJECT

Plagiarism Detection in Electronic Text Assignments

2020

- Developed a plagiarism detection system for assignments, leveraging the BM25 algorithm to refine relevant document retrieval from over 100 to 10 per query. Utilized Sentence BERT embeddings and FAISS indexing for fast, fine-grained text similarity assessments by tokenizing documents into sentences.