

AAYUSH NEUPANE

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EDUCATION

Pulchowk Campus, IOE, Tribhuvan University (4% acceptance rate)

Bachelors, Computer Engineering - Full Scholarship- Entrance(Rank 56)

Percentage: **79.23%**

Pulchowk, Lalitpur

Sept 2019 - April 2023

Vishwa Aadarsha Higher Secondary School

Physics, Chemistry, Math, Computer Science

GPA: **3.71/4**

Itahari, Nepal

July 2016 - July 2018

PROFESSIONAL EXPERIENCE

Smart Data Solutions | Machine Learning Engineer

Eagan, MN (Remote) | Jan 2024 - Present

- Worked on information extraction from healthcare-related documents, including insurance claims and medical records. Performed data collection, cleaning and model training for information extraction
- Worked on Developing an intelligent medical record processing system to extract important information from medical records. Leveraged state-of-the-art models like LayoutLM and Large Language Models

Naamche | Machine Learning/ Backend Engineer

Kathmandu, Nepal | May 2023 - Dec 2023

- Primarily worked on creating chatbots using Large Language Models (LLMs) for real-estate in Florida and University extension centers.
- Tasks involved collecting, cleaning and indexing data in vector database for implementing RAG based framework, used tools like Scrapy, Metabase, AWS sagemaker
- Created chatbots that can give recommendations, suggestions based on existing data, also implemented guardrails for these chatbots. Developed API using FastAPI framework

Sandbox Inc | Computer Vision/Backend Engineer

Pokhara, Nepal (Remote) | Feb 2023 - May 2023

- Developed game bot for playing MOBA games, primarily using OpenCV
- Worked on Django to create APIs for bot platform.

Wiseyak Inc | Machine Learning Internship

Kathmandu, Nepal | Jan 2023 - April 2023

- Worked on NLP, Learned about RNNs and Transformer based models. Specifically learned about attention mechanism used by Transformers. Used RASA framework for chatbot development

LOCUS | Technical Co-ordinator

Lalitpur, Nepal | Mar 2022 - Mar 2023 (Part time)

- Managed software events and maintained various software systems at LOCUS, including LOCUS's website and its online certification system.
- Initiated, developed, and successfully launched the online certification system currently in use at LOCUS.
- Managed Azure account/ virtual servers used by LOCUS for deploying products, enhancing deployment efficiency and system stability.
- Lead/Instructed a 10-day-long extensive fellowship program ([Link](#)) to teach 120+ students, mostly sophomores and juniors about software development practices.

Upwork | Freelancer

Remote | Aug 2021 - Present

- Worked on Web application development projects,web scraping, and web development using the latest NLP techniques.
- Collaborated with startup co-founders, delivering tailored software solutions both on Upwork and independently. Earned Top Rated status that is awarded by Upwork to few freelancer ([Profile Link](#))

SKILLS

Programming Languages: C/C++, Java, Python, Javascript

Machine Learning: Pytorch, Tensorflow, numpy, pandas, scikit-learn, OpenCV

Server Side Development: FastAPI, Django, Flask, Nodejs/Express

Tools / Platforms: Git, Github, Docker, Server side administration using Linux

Cloud Platforms: have used AWS, GCP, Azure

Databases: PostgreSQL, MongoDB, MySQL

Frontend: Reactjs, Nextjs

HONORS & AWARDS

- **High School Topper, VAHSS** - 1st rank holder among 200+ students, Graduating class of 2018
- **Achievement** - Nation wide rank 56 in Engineering entrance exam taken by Tribhuvan University
- **License** - Registered and Licensed Engineer (Nepal Engineering Council)

PROJECTS

EaseAnnotate | [Link](#)

Nextjs, FastAPI, Pytorch, LLMs

- EaseAnnotate is my passion project. We ended up launching this product as SaaS. Our project also got funded by Microsoft for Startups. EaseAnnotate is a document AI tool that can be used for Annotating documents as well as for extracting key information from the documents.

Receipt Scanner | [Video Link](#)

Pytorch, FastAPI, Reactjs

- Developed a user-friendly software solution using a Transformer-based architecture with the pretrained LayoutLM model for annotating and training custom models for key information extraction from unstructured text arbitrary keys.
- Implemented CI/CD pipelines with GitHub Actions and Docker for containerization and deployment.

Real time text similarity matching | [Link](#)

Pytorch, Annoy, BERT

- Implemented real-time text similarity matching by generating sentence embeddings.
- Used various algorithms, including TF-IDF, Average Word Embeddings, Smooth Inverse Frequency (SIF), and BERT for generating sentence embeddings.
- Used Annoy as vector database to perform an approximate nearest neighbor search on vectors.

Online Certification System | [Link](#)

Django, OpenCV

- Developed and managed an online certification system for LOCUS using Django Framework, OpenCV, and Azure VM (Docker), enabling bulk certificate generation, and automated email distribution.
- Streamlined certificate management and deployment processes, enhancing scalability and efficiency through containerized deployment on Azure.

Anubadak : A simple interpreter | [Link](#)

C++

- Developed an interpreter for a 'B'-like language as an academic project, demonstrating core concepts of Object-Oriented Programming and "Theory of Computation."
- Implemented key compiler design principles such as lexical analysis, semantic analysis, and Abstract Syntax Tree (AST) construction.

3D City Modeling | [Link](#)

OpenGL, C++

- Developed a 3D renderer from scratch in C++ using OpenGL and GLSL, capable of rendering models created in Blender.
- Implemented shading techniques including Gouraud and Phong shading, as well as Phong illumination for realistic rendering effects.

Unix Like Shell | [Link](#)

C, Linux

- Implemented a simple UNIX-like shell in C, utilizing various system calls through the C API.
- Developed basic shell functionalities such as command execution.

CERTIFICATIONS

- Qubit by Qubit Introduction to Quantum Computing - **IBM Quantum by Codingschool**
- GAJABAAR Infosecurity Mentorship Program - **GAJABAAR**
- Neural Networks and Deep Learning - **deeplearning.ai on Coursera**
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization - **deeplearning.ai on Coursera**
- Structuring Machine Learning Projects - **deeplearning.ai on Coursera**
- Sequence Models - **deeplearning.ai on Coursera** **deeplearning.ai on Coursera**
- Participant in Third Nepal Winter School in AI - **NAAMI**
- AWS Academy Cloud Foundation - **AWS Academy**