

Neelam Karki

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github.com/neelamk57

Professional Summary

A detail-oriented engineer with 1+ years of experience designing, optimizing, and implementing technical solutions across diverse domains. Proficient in Python, SQL, and backend development tools, with a strong foundation in data engineering, AI/ML, and system design. Passionate about leveraging technology to drive innovation.

Education

University of South Dakota, MS in Computer Science Jan 2025 – Present

- **Coursework:** Applied Reinforcement Learning, Artificial Intelligence, Seminar

IOE, Thapathali Campus, Tribhuvan University, BE in Electronics, Nov 2018 – Apr 2023
Communication and Information

- **Coursework:** Data Structures and Algorithms, Data Mining, Object Oriented Programming

Experience

Data Engineer, Wiseyak Inc. – Naxal, Kathmandu Jan 2024 – Dec 2024

- Developed and optimized backend infrastructure and database systems for AI/ML-powered platforms
- Integrated and maintained data pipelines, including Large Language Models (LLMs) for data retrieval, ranking, and processing from saved chat transcripts and provide metadata to a system-wide search database
- Led backend development for multiple web applications and API implementations
- Handled data scraping, processing, and indexing across different platforms

Data Engineer Intern, Wiseyak Inc. – Naxal, Kathmandu Jul 2023 – Dec 2023

- Gained experience in data wrangling and cleaning large datasets
- Worked on implementing search and indexing solutions using Elasticsearch
- Assisted in backend development for internal tools and services

Skills

Languages: C++, C, Python, SQL

Databases: Elasticsearch, Solr, SQLite, PostgreSQL, Redis

Data Engineering: Apache Airflow, Scrapy, Selenium, Shell Scripting

Machine Learning & AI: Pandas, NumPy, Scikit-Learn, NLTK, TensorFlow, PyTorch, Langchain

Data Visualization: Grafana, IBM Cognos Analytics, Tableau

Development Tools: Git, Docker, FastAPI, Postman

Soft Skills: Problem Solving, Critical Thinking, Communication, Collaboration, and Presentation

Projects

Transformer-Based Deep Coding Engine for Generating High-Level Source Code github.com/neelamk57/codegen

- Compared the performance of base transformer model with a pretrained Code-T5 model for C++ source code generation task
- Tools Used: Python, PyTorch, Keras, TensorFlow

Global VIVA (Voice Integrated Virtual Assistant) chatbot/gibl.com.np

- Designed a voice-enabled virtual assistant that offers real-time banking services information, integrating speech recognition and AI-driven query handling for enhanced customer experience
- Tools Used: FastAPI, Langchain, LlamaIndex

AccountGPT/Taxbase for American tax-related queries

taxbase.us

- Built an AI-powered chatbot leveraging GPT models to provide guidance on U.S. tax-related queries, ensuring users receive clear, structured, and reliable tax information
- Tools Used: FastAPI, Langchain, LlamaIndex

Solr-Learning To Rank (LTR) Enabled Medical Information Retrieval System

2023

- Implemented a Learning-to-Rank (LTR) model in Apache Solr to optimize the ranking of medical search results, improving relevance and accuracy in healthcare-related queries
- Tools Used: Solr, Elasticsearch, LightGBM

Certifications

- *Deep Learning with PyTorch : Generative Adversarial Network*
- *Data Analysis with Python*
- *ETL and Data Pipelines with Shell, Airflow and Kafka*
- *Python and SQL for Data Science*
- *Relational Database Administration (DBA)*
- *Data Warehouse Fundamentals*
- *Machine Learning Pipelines with Azure ML Studio*