NIRANJAN SHAH

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Skilled in machine learning, deep learning, natural language processing, and web development. I possess strong problem-solving abilities and thrive in both team settings and independent projects. Adaptable and resilient under pressure, I am ready to contribute effectively in roles such as software engineering, data engineering, machine learning engineering, and data analysis.

SKILLS SUMMARY

- **Programming:** Python, JavaScript, R, SQL
- **Machine Learning/ Data Science:** PyTorch, Scikit-Learn, Numpy, Pandas, Jupyter Notebook
- **Web Development:** ReactJS, NextJS, FastAPI
- **Data Visualization:** Matplotlib, PowerBI, Tableau
- **Cloud Computing/ Deployment:** AWS, Docker, Vercel

EDUCATION

Master of Data Science in AI and Computational Modelling **2022 - 2024**

University of Canberra, Australia 6.6/7 GPA, 87.4 %

Bachelor of Computer Engineering **2017-2021**

Tribhuvan University, Nepal 72%

PROFESSIONAL EXPERIENCE

Jr. Software Engineer, Citrana Creatives, Nepal **Dec 2021 - Aug 2022**

- Designed and implemented the database and software requirement specifications for a book renting and lending system, enhancing operational efficiency.
- Utilized Firebase for backend services, managing real-time data storage and user authentication to ensure performance and security.
- Developed the frontend interface using React.js and Material UI, focusing on user experience and responsiveness.

Backend Developer, Digital Office Technology, Nepal **Nov 2020 - Sep 2021**

- Designed and implemented databases using SQL, PostgreSQL, and NoSQL for various applications.
- Developed the backend for a school management system and other management platforms using Laravel.

ADDITIONAL INFORMATION

- **Languages:** English, Nepali, Hindi
- **Paper Published:**
  "File Security System using Hybrid Cryptography and Face Recognition"
  Presented in 2nd International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2021)
  https://link.springer.com/chapter/10.1007/978-981-16-1866-6_38

PROJECTS

Sentiment Analysis Using Deep Learning

- Utilized the Sentiment140 dataset to develop a deep learning model for sentiment prediction.
- Enhanced text processing with pandas for data cleaning and gensim for creating word2vec embeddings.
- Implemented LSTM networks in TensorFlow to analyze temporal dependencies in text data.
- Developed and deployed a FastAPI backend on AWS EC2 for model hosting.
- Built a responsive frontend using React.js and Material UI, deployed on Vercel.
- Github Link: https://github.com/niranjanblank/SentimentAnalysisBackend

LA Crime Data Analysis

- Analyzed LA crime data to identify trends and insights that inform law enforcement and community strategies.
- Performed data cleaning using the tidyverse package in R.
- Conducted exploratory data analysis using PostgreSQL to uncover key crime patterns.
- Visualized data trends and distributions using seaborn and matplotlib.
- Github Link: https://github.com/niranjanblank/LACrimeDataAnalysis

Flappy Bird AI using NEAT

- Programmed the Flappy Bird game and implemented NEAT algorithm for AI training.
- Enabled the AI to autonomously play the game, optimizing performance over 50 generations.
- Added gameplay modes for user interaction and AI demonstration.
- Github Link: https://github.com/niranjanblank/FlappyBird

Portfolio Website

- Developed a personal portfolio website using Next.js to showcase projects and professional expertise.
- Integrated Contentful as a headless CMS, enabling efficient content management and updates.
- Implemented responsive design principles to ensure optimal viewing across various devices.
- Hosted the site at www.niranjanshah.com.np, enhancing online presence and accessibility.

Plant Disease Vision

- Analyzed LA crime data to identify trends and insights that inform law enforcement and community strategies.
- Performed data cleaning using the tidyverse package in R.
- Conducted exploratory data analysis using PostgreSQL to uncover key crime patterns.
- Visualized data trends and distributions using seaborn and matplotlib.
- Github Link: https://github.com/niranjanblank/LACrimeDataAnalysis

ChatWithPDF

- Developed a tool to interactively query PDF contents using Langchain and GPT-3.5.
- Integrated Faiss for accurate and relevant data retrieval based on user queries.
- Created a user-friendly frontend using Streamlit, enhancing user interaction
- Github Link: https://github.com/niranjanblank/ChatwithPDF

Data Retrieval Chatbot Using Langchain (RAG System)

- Developed a RAG (Retrieval-Augmented Generation) chatbot using Langchain to improve data retrieval and answer generation.
- Integrated advanced natural language processing to streamline query processing and enhance the accuracy of generated responses.
- Designed and deployed the chatbot interface using Streamlit, providing an intuitive and interactive user experience.
- Deployed the system using Docker, ensuring scalable and consistent environment configurations.
- Github Link: https://github.com/niranjanblank/DataRetrievalChatbot