Kirtan Kanani

647-376-4595 | kkanani@uwaterloo.ca | linkedin.com/in/kirtan-kanani | github.com/kirtan

SUMMARY

With over **1.5 years** of dynamic experience in Software Development, I've successfully contributed to a diverse array of projects spanning from **web development to AI initiatives**. Proficient in **problem-solving, machine learning, and algorithms**, and equipped with a master's degree, I am poised to leverage my skills and academic background to spearhead impactful projects.

EDUCATION

University of Waterloo — Sept 2022 - Dec 2023
*MEng in System Design Engineering **CGPA : 92/100*** — *Waterloo, ON*
- **Relevant Courses** - Deep Learning, Introduction to Optimization, Pattern Recognition, Algorithm and Data Structures

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres,MySQL), JavaScript, HTML/CSS, TypeScript
Frameworks: React, Node.js, Flask, Material-UI,Next-js
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ
Libraries: Pandas, NumPy, Matplotlib, PyTorch, TensorFlow, Keras, Sklearn, Express,FastAPI,Django,Flask,SpringBoot

EXPERIENCE

Software Engineer — Jan 2024 – Present
Thesys — *Remote*
- Enhanced ML pipeline performance by integrating RAG, resulting in a **$0.005/request** cost savings.
- Deployed backend to Azure using Azure functions integrated with **CI/CD** for ease of deployment and saving **$50/month**.
- Optimized RAG pipeline by training a custom model from AI-generated datasets, leading to improved performance by **10%**.
- Integrated middleware into FastAPI for seamless JWT authentication with Clerk API, helped in using user information in AI models
- Developed a cutting-edge RESTful API seamlessly integrated with Cosmos DB, enhancing frontend functionality and user experience.

Machine Learning Engineer — Jan 2024 – Present
Winbold — *Remote*
- Implemented a range of technical indicators tailored to specific stock types within the stock market, resulting in a **10%** enhancement in model performance.
- Incorporated LSTM-based network architecture into the model, leveraging sentiment analysis to further enhance performance.
- Refactored existing code base to incorporate Factory and Composite Design pattern for seamless integration of features.

Undergraduate Research Assistant — Dec 2019 – Nov 2020
Sardar Vallabhbhai National Institute of Technology — *Surat, Gujarat*
- Conducted an exhaustive 10-year analysis of minute-by-minute weather data from diverse locations in India. Employed machine learning clustering algorithms to explore correlations between datasets.
- Engineered an Arduino-based system for real-time data capture, achieving a significant 55% reduction in data collection latency. Designed and implemented an energy module using Xbee, Raspberry Pi, and a thermo-hygrometer. This innovative solution facilitated hourly GUI-based results, enhancing data visualization capabilities.

PROJECTS

Happy Tunes | *Java, React, Redux, Material UI, SpringBoot, PostgreSQL*
- Spearheaded the development of a custom RESTful API for seamless music streaming functionality, utilizing SpringBoot, and PostgreSQL.
- Implemented JWT authentication to ensure secure user authentication, enhancing the privacy and integrity of user data.
- Leveraged Redux for state management, effectively storing and managing user information to optimize user experience.

Detect AI-written text | *Python, HuggingFace, Pandas, Wandb, LangChain*
- Trained a custom transformer model alongside a custom tokenizer designed specifically for detecting human-written text patterns.
- Conducted a comprehensive comparison between the custom transformer model and a fine-tuned BERT model, utilizing a pretrained tokenizer for BERT model.
- Achieved an impressive overall accuracy of 98.75% with the custom model, showcasing its superior performance. The fine-tuned BERT model, while robust, attained a commendable accuracy of 97.21%.