Gokul Sunil Sodar

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Education

Bachelor of Technology in Computer Science and Engineering	*September 2021 – Present*
Vellore Institute of Technology, Vellore, India	**CGPA – 7.72**
Class 12 - CBSE	*2021*
Indian Educational School, Kuwait	**95.6 Percent**
Class 10 - CBSE	*2019*
Indian Educational School, Kuwait	**88.4 Percent**

Projects

1. **Fine-tuned T5-small 60M parameter model for English to Hungarian Translation** (**GitHub**) (**Website**)
   - Fine-tuned Google's **T5-small** (60M parameters) model for English-to-Hungarian translation using the OPUS Books dataset on a **Kaggle** notebook with an **NVIDIA P100 GPU**.
   - Deployed the fine-tuned model as a **Docker** container on **Google Cloud Run**.

2. **Interactive Learning Chatbot** (**GitHub**) (**Website**)
   - Developed a Conversational AI Chatbot using LLM APIs in a "teach-and-learn" framework, where the user teaches a topic, and the LLM responds as an eager student, fostering mutual learning and engagement.
   - Utilized key technologies like **Pydantic_ai, Streamlit, and Groq API** to build an efficient and interactive chatbot experience.
   - Deployed the chatbot on **Streamlit**, ensuring a user-friendly interface for seamless interaction.

3. **Quantum Encoding for ML-Based Intrusion Detection** (**Github**)
   - Applied **quantum encodings** to **ISCX datasets (2009–2016)** and evaluated their impact on canonical ML models for **intrusion detection**, comparing performance with and without encodings to analyze improvements in classification accuracy and efficiency.
   - Utilized **PennyLane**, **Scikit-Learn**, **Pandas**, and **NumPy** for implementation and performance evaluation.

4. **Youtube Video summarizer chrome extension** (**GitHub**)
   - Developed a YouTube Summarizer Chrome Extension using **Groq API**, extracting video transcripts by inspecting the webpage source code and generating concise summaries.
   - Utilized **JavaScript** and **DOM manipulation** instead of Chrome or YouTube APIs, ensuring seamless extraction without external dependencies.

5. **USA Land price prediction** (**Github**)
   - Developed a machine learning model to predict land prices using data sourced from realtor.com.
   - Experimented with various algorithms, including **Decision Tree, Random Forest**, **XGBoost**, **Extra Trees** and many others, achieving the highest performance metrics with **Random Forest**.

Papers and Publications

1. **Comparative Analysis of Quantum, Classical, and Hybrid Machine Learning on Medical Datasets** *Ongoing (Paper)*
   - Conducted a comparative study on **QSVC**, **SVM**, **Random Forest**, **Naïve Bayes**, and **Hybrid (QSVM+SVM)** models.
   - Implemented models using **PennyLane** for quantum computing and **scikit-learn** for classical machine learning.
   - Currently applying to **Scopus-indexed conferences** for **publication.**

2. **Analysing Encrypted Network Traffic using Quantum Machine Learning** *Ongoing*
   - Developing a quantum machine learning model to analyze encrypted network traffic for anomaly detection and cybersecurity threat mitigation.

Experience

1. **RPA Intern** *June 2024 – August 2024*
   UBGroup, Kuwait City, Kuwait
   - Developed an invoice processing automation system using UIPath, automating the extraction of invoices from Google Drive, applying OCR for data extraction, and storing results in Excel.
   - Implemented end-to-end automation by uploading the processed Excel sheet back to Google Drive, streamlining invoice management.

Achievements and Extracurricular Activities

1. **Top Coder** *June 2024*
   - Shortlisted among the top **coders** across all four VIT campuses in a competitive coding test.

2. **VITEEE** *July 2021*
   - Achieved 11,432 rank in VITEEE (VIT entrance examination).

3. **5th Pillar – VIT** *Feb 2023 – Feb 2024*
   - Attended meetings and actively participated in discussions.
   - Published articles related to politics on the club's **Medium** page.

Skills

- **Programming Languages** - Python, C, SQL
- **Frameworks** – Langchain, Pydantic_ai, numpy, pandas, scikit-learn, tensorflow, pytorch, transformers.
- **Other Skills** - Communication, Public Speaking, Team Management, Content Writing, Conflict Resolution, Leadership, Data Analysis, Root Cause Identification, Statistics, Market Strategy, Business Analytics, Presentation, Industry Research

Certifications

- **AWS Certified Cloud Practitioner (Link)**
- **AWS Academy Graduate - AWS Academy Cloud Foundations (Link)**