Akash Gujju

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Education

University of Southern California, Los Angeles, CA **GPA: 3.72/4**

Masters of Science (M.S), Computer Science **May 2023**

Relevant Coursework: Foundations of Artificial Intelligence, Analysis of Algorithms, Web Technologies, Machine Learning, Applied Natural Language Processing, Database Management Systems, Deep Learning

Osmania University, India **GPA: 8.82/10**

Bachelor of Engineering (B.E.), Computer Science and Engineering(Honors) **October 2020**

Work Experience

Data Analytics Intern - Chatbot Developer, Viatris, PA **June 2022-Present**

- Designed and developed a chatbot built using AzureBot and E-R Recognizer from Conversational Language Understanding to convert given user text or voice input to an analytics tabular report.
- Designed an ETL data pipeline using Azure Data Factory that transfers data from Azure SQL to Azure DataLake.
- Working on developing Power Automate workflows to automate feature requests and tickets on a Sharepoint website to improve ticket resolution speed and enhance the developers' efficiency.

Systems Engineer - Software Developer, Tata Consultancy Services, India **July 2020-May 2021**

- Developed a web application using Flask for displaying product data from AWS RDS. Designed an ETL pipeline to transfer product data from SQL Server to AWS RDS. Retrieved product analytics using efficient SQL queries for faster performance on the live website.

Data Science Intern, Tata Consultancy Services, India **January 2020-April 2020**

- Experimented with SMOTE oversampling on an imbalanced insurance dataset using Pandas, Imblearn, and Keras for building a Random Forest-based Churn and Risk prediction model on client customer attributes for checking client eligibility.

Technical Skills

Languages: Python, R, Java, C, C++, MATLAB, JavaScript, Shell Scripting

Frameworks: Flask, Docker, ReactNative, NodeJS, C#, Robotic Process Automation, Power Automate, Power Virtual Agents

Technology Stack: Git, Azure, Firebase, AWS, G-Cloud, Oracle, UiPath, TensorFlow, PyTorch, SharePoint

Data Skills: Tableau, Apache Spark, MongoDB, Hadoop, NoSQL, SQL, Keras, Tensorflow, Pandas, Map-Reduce, KNIME

Domain Knowledge: Probability & Statistics, Machine Learning, Deep Learning, Data Visualization, Natural Language Processing, Software Engineering, Data Engineering, ETL Pipelining

Research Experience

Student Research Assistant, Vasavi College of Engineering, India **January 2020-October 2020**

- **Data Forecasting of COVID-19 Crisis in India using AutoRegression**
  - Forecasted the growth chart of COVID-19 cases in India using the AutoRegression model to allocate beds and resources.
  - Fit the model on data and forecasted COVID-19 cases with an error of 0.05% daily and a max standard deviation of 3341.0 cases. Predicted the dip in COVID cases one month in advance for October 2020.
- **Detecting an Insider Threat And Analysis of XGBoost using Hyper-parameter Tuning**
  - Analyzed CERT 4.2 dataset to extract helpful information through feature engineering and built an XG-Boost-based prediction algorithm for anomaly detection (threat detection).
  - Deployed a CICD pipeline and a continuous learning model for real-time inferencing using Flask and Docker containers.

Publications

- S. K. Mamidanna, C. R. K. Reddy and A. Gujju, "Detecting an Insider Threat and Analysis of XGBoost using Hyperparameter tuning," 2022 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI), 2022, pp. 1-10, doi: 10.1109/ACCAI53970.2022.9752509.
- Gujju, A. Madhunala, S. and MSVS. Kumar, SV. “Environmental Data Forecasting For COVID-19 Crisis in India Using Autoregression.” Journal of Green Engineering 10.10 (2020): 9236-9247.

Projects

- **Langchain SQL Chatbot:** Developed a chatbot style interface for an SQL Database using OpenAI embeddings and SQL Database Agent. Prompted LangChain tasks used to access OpenAI GPT-3.5 and build a QA system to query the database.
- **Adapting Multimodal Models to Unimodal Tasks by b FLAVA with ALBERT:** Finetuned FLAVA model by replacing the text encoders with ALBERT and checked model performance on unimodal tasks by masking image embeddings.
- **Knowledge Graph and Fusion Based Transformer Approach for Multi-Hop Question Answering:** Fine-tuned RoBERTa model to enhance embedding quality & accuracy in Dynamically Fused Graph Networks(DFGN). Replaced skip-connections with Compact Bilinear Pooling and Tucker Fusion for faster convergence.