Sai Sena Chinnakonduru

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EDUCATION

Master of Science in Data Science - Indiana University, Bloomington – 4.0 GPA — Aug 2022 – May 2024

Bachelor of Technology, Civil Engineering – NIT Kurukshetra, India – 3.6 GPA — Aug 2015 – May 2019

SKILLS

- **Languages and Technologies:** SQL, NoSQL, Python, R, Spark, Hive, JavaScript, Django, React, Flask, HTML, CSS
- **Data Science:** Statistics, Statistical and Predictive Modelling, Machine Learning (ML), Deep Learning, Scikit-learn, Keras, PyTorch, TensorFlow, Data Analysis and Visualization, Computer Vision, NLP, LDA, Transformers, LLM, Generative AI
- **Databases and Others:** MySQL, MongoDB, Teradata, Data Structures and Algorithms, Tableau, Azure, PowerBI

WORK EXPERIENCE

Tredence Inc. — Bangalore, India

Senior Data Scientist — Jan 2021 – Jul 2022

Project: Dynamic Order Management

- Led a 3-person team, gathered requirements from business clients, and architected a network optimization model to recommend alternate warehouse shipments, saving $700K/month in penalties.
- Built data pipelines in Azure data factory for data extraction and transformation, ensuring efficient data flow for model execution.

Project: Rebates Framework:

- Developed a web tool using Flask and React to streamline the process of generating promotional campaign reports, including the feature to simulate multiple scenarios, reducing manual effort from 2 days to 1 minute.
- Conducted A/B (hypothesis) tests on different customer segments to find out the effectiveness of the promotional campaign and communicated the results effectively to stakeholders.

Data Scientist — Jun 2019 – Dec 2020

- Utilized Natural Language Processing (LDA) techniques to extract themes from customer feedback, then used a RandomForest classifier for sentiment analysis on these themes, contributing to a 1% increase in retention.
- Optimized supply chain processes by implementing a solution to recommend appropriate SKUs in the right DCs, reducing the lead time from distribution centers to stores from 13 days to 8 days.
- Performed Exploratory Data Analysis using pyspark and hive on store operational metrics, to identify the metrics affecting CX and provided recommendations that led to a 2% reduction in customer complaints.
- Extracted and transformed data from multiple sources to publish customer satisfaction metrics using tableau dashboards for data visualization, streamlining the decision-making process.
- Developed an internal finance tool integrating multiple APIs to generate profitability report, using Flask and React which reduced the manual effort from ~1.5 days to 2 minutes.

ACADEMIC PROJECTS

Grouped Multi-Query Attention in Transformers:

- Instead of grouping heads by taking mean, researched if performance can be converged sooner by taking weighted average, min or max pooling between key and value heads.

Grade 4 and 5 Math Worksheet Image Classification:

- Preprocessed grade 4 and 5 math worksheet images and extracted feature maps using pre-trained EfficientNet.
- Built hierarchical SVM on top of feature maps to classify images into contains drawing, text or no text achieving 91% accuracy.
- Results helped in answering the research question - impact of different solution strategies on the accuracy of student responses in mathematics.

Evaluated Parts of Speech Tagging Methods:

- Implemented Naïve Bayes for individual word Parts of Speech (POS) tagging and enhanced accuracy by utilizing Hidden Markov Models with MAP estimates to account for word dependencies.

Learning Management System:

- Created a full stack web application for learning management system using Django, React and PostgreSQL following software engineering and agile practices.
- Created UI pages and APIs for multiple user roles, debugged while integrating frontend and backend.