Venkata Satya Sri Ram Giduthuri

+1 (680) 216-3364 | vgiduthu@syr.edu | github.com/GvsSriRam/ | linkedin.com/in/venkata-satya-sri-ram-giduthuri/

EDUCATION

* May, 2025	**Syracuse University**	**M.S. in Computer Science**	**CGPA: 4.0 / 4.0**
June, 2020	**Indian Institute of Technology Kharagpur**	**Bachelors & Masters**	

EXPERIENCE

HCL Software, India **Senior Software Engineer** **Sep, 2020 – July, 2023**

- Worked as a Machine Learning and Data Engineer in HCL Commerce - Data & AI - R&D division

PRODUCT RECOMMENDATION SYSTEMS

- Created a *Collaborative Filtering model*, to predict user preferences with 95% accuracy based on implicit feedback in a large product catalogue
- Built a *Content-Based Recommendation model* using NLP techniques (TF-IDF, word embeddings) to recommend similar products
- Enhanced *Frequently Bought Together Model* recommendations based on Association Rule Mining algorithms resulting in 10% more activity
- Devised training, fine-tuning, prediction pipelines and utilised Redis store to cache and retrieve recommendations within 10 ms

DYNAMIC SEGMENTATION MODEL

- Designed a multi-label classification algorithm to classify online shoppers into customer segments for precision marketing with 95% accuracy
- Applied feature selection methods to improve interpretability and achieve an explainable AI, with 18% increase in classification accuracy
- Employed Deep Auto-Encoders for dimensionality reduction, enhancing computational efficiency by 85% without a significant loss of data

DYNAMIC PROMOTION OPTIMIZATION

- Developed a Multi-Armed Bandit architecture with Epsilon Greedy, UCB, and Thompson Sampling algorithms for dynamic promotions
- Setup real-time ETL pipelines on Trino with DBT to monitor promotions performance and devised custom metric to maximize conversions

DATA ENGINEERING

- Utilized DBT TRINO views to optimized feature engineering for ML models and reduced prediction latency from 1.6 sec to 600 ms
- Built macros in DBT to streamline complex SQL operations - one-hot encoding, incremental materialization and improving code reusability
- Established online & offline feature stores by leveraging FEAST, DBT & TRINO to minimize real-time data retrieval latency to 100 ms

BACKEND APPLICATION DEVELOPMENT

- Engineered generic and configurable Python Fast-API based APIs for ML model training and Node JS APIs to load and serve predictions
- Setup continuous deployment on Cloud Run, ensuring seamless upgrades from git, horizontal scalability and response times of 20-30 ms

PROJECTS

Balance AI: AI for Business Analytics **Feb, 2024 – Present**

- Engineered an LLM chatbot driving actionable insights for business optimization, marketing strategy definition, and dynamic graph plotting.
- Innovated a robust bi-directional LSTM and HMM-Viterbi model for tailored query responses, enhancing user engagement.
- Revolutionized revenue forecasting through meticulous time series analysis, automating monthly report generation for clear financial insights.

Visual Similarity Recommendations Model **June, 2021 – July, 2021**

- Inspired by Visual Similarity Recommendation feature of Adobe Sensei for Adobe Commerce, 2021 release
- Customized pre-trained keras VGG-16 model's input and output layers while keeping weights undisturbed, resulting in accurate predictions
- Pre-processed and normalized a dataset of 3000 product images to extract visual features and computed similarity to offer recommendations

Whisper Wallet: An AI Enhanced Expenses Recognition Model **Dec, 2023 – Present**

- Developed and tested an Open CV-based expense detection model for generic bills, handling both scanned and normal images
- Integrated the trained Gemini Pro Vision, an LLM model into the API to accurately parse expenses, quantities, and amounts in generic bills
- Created a user-friendly web application interface for uploading bills, selecting individuals to split expenses, and displaying the expense share
- Successfully deployed the model in a production environment and integrated it into the web application

SKILLS

Languages	Python · SQL · C / C++ · NodeJS · React · HTML	**Frameworks**	TensorFlow · Keras · Kubeflow · Sklearn
GCP Services	BigQuery · Vertex AI · Cloud Run · Cloud Build	**Azure Services**	Databricks · Dolly · Machine Vision
Others	Docker · Kubernetes · GitHub · SQL Server	**Data Technologies**	Kafka · Dataflow · DBT · FEAST · REDIS

CERTIFICATIONS & COURSEWORK

Design & Analysis of Algorithms	Data Analytics	Natural Language Processing
Machine Learning	GCP – Professional Data Engineer Training	DBMS

AWARDS & ACHIEVEMENTS

- Secured All India Rank of 4368 in the JEE Advanced (2015)
- Recipient of Merit-cum-Means scholarship and Ministry of Human Resources Stipend throughout academic journey at IIT Kharagpur

EXTRA CURRICULAR ACTIVITIES

- Succeeded in bringing 12 internships as a Student Internship Representative (2018) for the Department of Civil Engineering, IIT Kharagpur
- Evaluated reports and conducted laboratory experiments while facilitating as teaching assistant for Concrete Laboratory
- Organized social campaigns on Women Hygiene, Child Education and Medical Camp as a part of National Service Scheme of IIT Kharagpur