Hemanth Kakarla

(+352) 691734489 hemanthsaicharan@gmail.com LinkedIn

Summary

Senior SDE - Machine Learning Engineering with 8.5 years of experience designing and implementing robust ML architectures. Proven track record of leading teams to develop impactful products in pricing, revenue management, procurement, and supply chain analytics. Successfully applied advanced data analytics, GenAI, LLMs, SLMs, and NLP to drive tangible business value. Seeking to leverage my expertise to contribute to strategic initiatives and deliver innovative solutions.

Skills and rating

- Python(5/5), Pyspark(5/5), SQL(5/5), R(4/5), Scala(4/5), Java(3/5)
- Azure(5/5), AWS(3/5)
- Frameworks (5/5): FastApi, Mlflow, Tensorflow, DVC, LangChain, DataBricks, Airflow, Kubeflow, AWS Sagemanker, Azure ML Studio.
- DS & ML: Statistical Analysis, Machine Learning, Linear and Non-Linear Optimization, LLMs, Forecasting, Strategy Planning
- MLOps: Model Building, Tracking, Serving, Monitoring.

Work Experience

AbinBev (World's largest brewer) *September 2022 – August 2024*

Senior MLEngineer

Led a team of machine learning engineers, data engineers, and data scientists to develop and deploy innovative data-driven products for **Global Forecasting** and **Revenue Management** BUs. Worked with Global Brand Promotion teams like **Budweiser, Corona, Bud light, Michelob ULTRA, Stella Artois**

- **Forecasting Team for Financial Planning & Analysis and PnL:**
  - Responsible for the team and the global delivery of monthly forecast of Beer Volume and Industry beer consumption.
  - As part monthly delivery cycles worked on the generic python package **ForGe** (Forecasting Generalized) which can help MLEs and Data Scientists to deliver the results and sophistications of the standard global forecasting template across the Org.
  - Responsible for package development and deployment with software best practices using git, github, github actions and github releases and documentation.
  - On the model operations we are responsible for the KPI tracking and model monitoring which includes model versioning and tracking using databricks, mlflow, airflow DAGs.
  - Worked on the pilot projects to implement TimeGPT which give accurate results provided the insights from the domains.
  - Developed and deployed a python package called **Vectorized Hierarchical Regression** modelling (VHR) which solves the problem of hierarchial forecasting generate granular forecast at SKU level rolling up to country level on the hierarchical basis using deep learning model optimization methods with tensorflow.
- **Revenue Management and product price optimization**
  - Responsible for the Engine of optimization and revenue price arch. analysis product called **BrewVision**.
  - Led the development of machine learning models to optimize pricing strategies based on elasticity analysis.
  - Designed the Arch. and led the development of optimization product integrates with ML modles using Tensorflow, FastAPI, Mlflow frameworks for recommendation on the optimal price increases.
  - Achieved Average **MACO** uplift of **7%** Using the recommendations and implementing for multiple markets in Mexico and South America Zones.

ZF Friedrichshafen ***August 2021 – September 2022***

ML Specialist
Developed product for Process and Resource optimization for Global sites for Div-R(Passive safety systems) — (MLFlow, Azure DataLake Storage, Azure ML, Azure pipelines, Azure monitor, Docker, Power BI, DAX, GIT):

- Product for resource planning and resource optimization globally for all BUs for ZF.
- Created pipelines for Data Extraction from multiple SAP DWs using Azure Databricks for Data preparation, Transformation, and model development at scale and traceability.
- Deployed a Streamlit application/tool for model serving as an endpoint created on the azure databricks.
- Created Dashboards in Power BI using Azure Synapse analytics for business users which will enable Finance and Sales planning & Forecast.
- Co-ordinating with Finance, Sales and Engineering development teams globally for the budgets and suggesting alternates of target setting.

Edgeverve an Infosys Product ***May 2019 – July 2021***

Data Scientist
Worked with reputed clients, driving the conversations and presenting opportunities. Worked on Proof of concepts and algorithms implementations to product. Handled multiple POCs on Procure Edge with Procurement Insights as product

- Worked on POCs & Modules enhancement for **Procure Edge** product.
- **Data Normalization** — Django, Celery, Jellyfish, SparseDotTopn, Datasketch, psycopg2: Designed and implemented a deduplication algorithm using NLP, Similarity & Graph Clustering techniques.
- **NIA Procurement Insights:** — Django, Celery, Sklearn, Tensorflow, psycopg2, SqlAlchemy, Pyspark: Worked on developing a classification model for textual descriptions from procurement data source using Multinomial Naive Bayes, Linear SVM and Random Forest with OneVsRest strategy to classify the textual data.
- **Categorization of their Direct & Indirect spend:** Providing opportunities by aggregating the demand for the suppliers, creating a recommendation system for material master to their ERP system. Used NLP techniques and classification models for understanding and categorization of their spend.
- Vendor Master Data Repository: Out of box implementation of NLP algorithms for the client global vendor master data. Using graph clustering & similarity algorithms to form master data for the revenue and spend analysis. Integrated Google APIs and D&B APIs to the workflow for supplier risk analysis and parent organization mapping.

As part of Procure Edge worked with multiple clients like (Intel, AT&T, Cisco, Kraft Heinz, ScotiaBank, British Airways, Honda and more) spread across domains like Banking, Airlines, Beverages, FMCG. Solely handled POCs from data extraction to providing insights and dashboards presenting value add to clients. using out of box techniques wherever necessary and integrate them to the procure edge product.

Mphasis ***March 2016 – April 2019***

Data Scientist
Projects at Next labs Mphasis:

- Prominently in Consumer analytics, customer segmentation, Demand forecasting: Employing statistical models such as polynomial regression and Prophet to develop a comprehensive methodology for predicting daily demand across the supply chain for each retail hotspot hub.
- Employing clustering algorithms and demographic analysis to identify distinct customer groups and tailor forecasting models accordingly.
- Worked on numerous tools like Databricks, Azure MlStudio, AWS, Postgres, Python package development.

Education

Bachelor of Technology - Computer Science and Engineering
JNTUK university *2011 - 2015*

Awards and Honors

Annual Award - AbinBev *Feb - 2024*
Leading the Forecasting and Revenue management Team on ML Product development. (Link)
PINT Award - AbinBev *Dec - 2023*
Successful implementation of SKU price optimization tool in BrewVision product.(Link)
Stellar Recognition Award 2020 - Edgeverve *Aug - 2020*
Supporting Data and Digital initiative by generic Data module contribution for Org. (Link)
Infosys Super League award FY19 *Oct - 2019*
Out of box implementation of set of algorithms and optimization for Data Normalization app to the Procure Edge product and then adapted by TradeEdge, FinxEdge products of Infosys. (Link)
Winner for Oracle National ML TechHack 2019 *March - 2019*
Awarded the top prize in Oracle's ML hackathon for developing an outstanding named entity recognition system among 5,000 competitors. (Link)