

VATSAL JIGAR KADAKIA

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Education

Stevens Institute of Technology, New Jersey

Aug 2022 – May 2024

Masters of Science in Data Science

GPA: 3.8/4.0

Coursework: Time Series Analysis, Deep Learning, Applied Machine Learning, Statistical Methods, Optimization Methods

University of Mumbai, India

Aug 2018 – May 2022

Bachelor of Engineering in Computer Engineering

GPA: 3.82/4.0

Coursework: DBMS, Data Structures, Data Analytics, Software Engineering, Object-Oriented Programming

Technical Skills

Python, R, SQL, Spark, Docker, JavaScript, Agile, Jira, Tableau, Oracle Analytics Cloud, Excel, Github, Jupyter

Experience

Minerals Technologies Inc, Bethlehem, PA

Jun 2023 – Dec 2023

IT Intern - MTI Oracle

- Collaborated with the **Oracle Analytics** team of the USA, Europe and India to migrate client data from **Oracle E-Business suite** to **Oracle Analytics Cloud(OAC)**.
- Developed **composite visualizations** of financial portfolio on OAC dashboard (**Sales Data Mart and ADW Sales Voice - Datasets**) transacting CY expense of \$893 Millions, PY expense of \$629 Millions and 42% Change expense.
- Revamped data project with OAC's **Machine Learning module**, reducing duplicate data by 40% and facilitating timely report and dashboard creation.
- Automated incident and request handling of company's **ServiceNow Chatbot**, reducing employee manual work by 35% and improving ServiceNow accessibility by 50%.
- Mastered and deployed **Java Scripts** using in-built **Natural Language Processing(NLP)** techniques to improvise plugins(ITSM, Conversational Appointment booking).

Projects

Twitter Stock Forecasting - ARIFMA, GARCH | *R, Time Series Analysis*

Academic Project

- Conducted **EDA, Residual Analysis** on Twitter Stock dataset to verify if series is seasonal and stationary or not by plotting **ACF, PACF, QQ** graphs and took their first differencing. Obtained p-value < 0.05.
- Implemented ARIFMA, GARCH, GJR-GARCH models to compare **AIC, MSE, Log Likelihood** scores. **gjrGARCH(1,1)** was the best model with Loglikelihood 12370.83. Forecasted stock price for next 60 days.

Pyspark weather API data streaming and analysis | *Python, Machine Learning, SQL*

Academic Project

- Engineered a **PySpark** streaming application integrating **SQL** and machine learning algorithms to dynamically fetch weather data from custom-selected locations and dates via a **weather API**(Processed over 25 fields).
- Enhanced functionality with **PyML operations** to compare weather data from two locations simultaneously, aiding event scheduling teams and skincare brands in strategic decision-making.

Grocery Store Optimization | *Python, A/B testing*

Academic Project

- Conducted **Z-test, Chi-Square** test to analyze significant difference between sign up rate for cheaper expensive mailer of delivery club. Performed **ANOVA** to find p-values of all columns(response variable as Sales column).
- Obtained 96% loyalty score accuracy, 93% behavior classification with **Regression** algorithms, significantly transforming store layout and marketing.

Image Search Engine | *Python, Deep Learning*

Academic Project

- Utilized pre-trained **VGG16** network, modifying its architecture by replacing the final **MaxPooling** layer with **Global Average Pooling** layer to generate single feature vector for each image, which facilitates image similarity.
- Extracted **feature vectors** from pre-processed base-set of 300 images are used to find similarities using **Cosine Similarity** when new search image is processed; system identifies and displays the most similar images with corresponding similarity scores.

Product Sentiment Analysis of iPhone 15 | *Python, NLP*

Academic Project

- Analyzed sentiments from 20K tweets with **VADER/TextBlob**, scoring 0.09/0.12, and used **LDA** for topic modeling (perplexity 1066), boosting marketing insights. Utilized **Twitter API** to scrape tweets and created a **Semantic Network** to identify the most prominent positive & negative words associated with product.

Publications

Dr.Megharani Patil, Vatsal Kadakia, Yash Gupta, Harsh Doshi(2022); Automated Healthcare System using Gamification and AI based Chatbot; Computer Vision (Applications of Visual AI and Image Processing),vol 15,De Gruyter