Shivam Vats

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EDUCATION

University of Colorado Boulder, **Masters in Data Science**   Aug 2022 – May 2024
Relevant Coursework: Applied Statistics, Data mining, Machine Learning, Big Data Architecture, Deep Learning

GGSIPU, **Bachelor of Technology in Computer Science**   Aug 2016 – May 2020

SKILLS

- **Programming Languages:** Python, R, R-Markdown, SQL(MySQL, Postgres), NodeJs, ReactJs, Mongo, HTML, CSS
- **Data Analysis:** Pandas, Numpy, Scikit-learn, Keras, Plotly, Seaborn, Tableau, Grafana, Selenium, Flask, Spark, Voila
- **Certifications:** Deeplearning.AI, AWS Solutions Architect Associate, Data Science and Machine learning in Python

PROFESSIONAL EXPERIENCE

Dish Networks, Colorado, United States   May 2023 – Aug 2023
Data Science Intern

- Architected data pipeline to stream video playback key performance indicators. Transmitted data from android application to InfluxDB database, which is queried by a Grafana dashboard for real time monitoring and analytics.
- Detected anomalous time series bandwidth health using isolation forest. Leveraged tableau dashboards to communicate how anomalous signals differ. Extracted signals having least noise leveraging this model to build forecasting models.
- Examined, analyzed, and transformed time series network data to achieve stationarity. Performed differencing, smoothing and non-linear transformations to implement ARIMA. Dynamized data visualization using Voila.

Amazon Web Services, Hyderabad, India   Jul 2020 – Jul 2020
Software Development Engineer

- Designed and developed React-Redux application for customer support engineers reducing the average time taken to debug an AWS Organizations ticket by 18%.
- Built an NLP regression model to score customer's sentiment on a scale from 0 to 100 using the data from support tickets. Leveraged NLTK and naive-bayes packages in python and improved the accuracy to 75% utilizing TF-IDF.
- Assisted 200+ customers in real-time via calls and chats to debug security and monitoring components of cloud applications. Solved 700+ tickets on services like Amazon Cognito, S3, IAM, EC2 and performed 90+ quality reviews of problem solving.

Marsplay, New Delhi, India   May 2019 – Jul 2019
Full Stack Web Developer Intern

- Built search engine optimization scripts in NodeJS that increased weekly average number of visits to website by 10%.

PROJECT AND RESEARCH EXPERIENCES

Song Recommender System [link]   Aug 2022 – Present
- Engineered data pipeline with Spotify Web API to gather songs data. Modelled it in PostgreSQL and performed EDA.
- Implemented PCA to facilitate Kmeans, KMedoids clustering and used content-based filtering to generate recommendations.
- Scaled using distributed computing via Spark on GCP. Deployed the flask application using docker and hosted it on EC2.

Furnace Maintenance Prediction [link]   Jan 2022 – Present
- Programmed time series classification model to predict when an aluminium furnace requires maintenance with 93% accuracy using supervised learning with time-based cross-validation.
- Checked data stationarity and engineered time-lag features by determining the period of input data signals using plotly. Performed time-based clustering for feature reduction of quantitative features and chi-squared test for qualitative features.

Its Ronaldo [link]   Aug 2020 – Dec 2020
- Performed data analysis and machine learning on game statistics of Cristiano Ronaldo. Conducted PCA along with multivariate analysis for feature selection. Implemented logistic regression, SVM, random forests, and KNN to classify if a goal is scored.
- Architected deep neural network leveraging Keras and performed hyper-parameter tuning. Applied the concept of cyclical learning rates to improve the accuracy of classification by 10%.

Research Assistant - Leeds School of Business [link]   Jan 2022 – Present
- Discovering similar courses using semantic analysis of course descriptions, helping the administration uncover connections across departments. Leveraged BERT to compute sentence embeddings that is used to calculate cosine similarity between the courses. Visualized relationships among courses using network graphs via plotly.

ACHIEVEMENTS

Winner – Smart India Hackathon   Mar 2019
Led a team of six persons to curate an application that reduces exploitation faced by farmers due to middlemen. Developed mobile and web application with ReactJs and NodeJs to sell produce online, book crop storage facilities, and logistics services.