Aditya Joshi

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WORK EXPERIENCE

Tata Consultancy Services Thane, Maharashtra

Data Scientist September2021-Current

- Working on building machine learning models which can correctly predict the estimated time of arrival of parts ordered by dealers or customers for our Automobile Industry client.
- Improving ETA results as compared to legacy code by increasing predictions of on time delivery results days. Building result matrices to display percentage of ETA calculated as early and delayed by 1 to 10 days.
- Building Pipeline code to deploy our model in production so that it can generate results in real time. Visualized results and provided insights to the customers.
- Working on moving on-premise pipeline to AWS and migration of data from greenplum data lake to snowflake.
- Wafer fault detection project to identify defected wafers using sensor data. Developed clustering model to cluster dataset and build individual model for each cluster to get most optimum classification results.
- POC to automate manual classification of tickets generated by clients and classifying them into multiple categories based on the description provided in the particular ticket or incident.

Software Developer September 2020 - August 2021

- Developed web applications for automobile Industry clients. One Dealer facing and one for DSP. Developed Each application with 2 views, admin access and general access.
- Designed the entire database schema and project architecture from scratch by understanding the business and its requirements.
- Worked on dynamic report generation for clients to understand all the actions performed by dealers and DSPs.

Skills

- Programming Languages: Python, SQL, MongoDB, R, Java, C.
- Deep understanding and expertise in the field of Databases, Machine Learning, Deep Learning and Statistical Learning.
- Data Exploration & Preparation - Exploratory Data Analysis, Data Preprocessing, Sampling, Feature Engineering.
- Machine Learning Algorithms- KNN, Logistic Regression, Linear Regression, SVM, Naïve Bayes, Random Forest, Decision Tree, XGBoost,Gradient Boosting Algorithm.
- Mathematical knowledge of Optimization techniques – Gradient Descent, SGD, AdaGrad, AdaDelta and Adam, LazyAdam
- Computer Vision(CV) - CNNs, Segmentation - (Unet, Canet), Object Detection - (YOLOv3), Object Tracking - (Deep Sort)
- Natural Language Processing (NLP) - RNN, LSTM, Encoder-Decoders.
- Cloud Technology - AWS, GCP
- Deployment - Flask, Streamlit, Heroku, Docker.
- Libraries and Frameworks: Sklearn, Numpy, Pandas, Tensorflow, Matplotlib, Seaborn, Pytorch, Flask, Spring.
- Tools: Pycharm, VScode, Jupyter Notebook, Spyder, Squirrel, Power BI, MS Excel, Eclipse.

Projects

Estimate Time of Arrival Prediction for automotive parts.

- Developed ML based solution to predict ETA for a given order placed by dealers to an automobile company.
- Created SQL pipeline to store a large amount of data into a data lake from multiple parent tables.
- Exploratory data analysis and feature engineering to get top features from a large dataset.
- Worked on model training and optimization and selected the best model for the dataset
- Built a PowerBI dashboard to visualize data and results to provide insight to customers.

Image Captioning using CNNs and RNNs

- Developed a Deep learning approach to generate automatic captions for given images.
- Built a CNN model to understand the given image features and RNN model for generating captions.
- Prepared data by cleaning and preprocessing captions and built LSTM based architecture to generate captions.
- Worked on generating result matrices and visualization and achieved a Bleu score of 0.56 for our model.

Wafer Fault Detection

- Developed classifier to identify if the given Wafer is defected or not based on sensor readings.
- Worked on data validation, transformation and saved preprocessed data into a database.
- Creating multiple clusters out of data and trained models for each cluster.
- Saved model and created a pipeline code for result generation.

Helmet Detection

- Object detection system to identify riders without helmets in a given video feed using YOLO5 model and flask.
- Trained our model on a custom annotated dataset using label Img to detect vehicles and helmets.
- The mode achieved a successful mAP of 65 and saved the detection results and license plate details in the database.

Education

Bachelor of Engineering, Computer Science. Thane,Maharashtra

CGPA- 8.71, University of Mumbai

Certifications

- Coursera Deep Learning Specialization by deeplearning.ai
- Coursera Google Cloud Fundamentals: Core infrastructure and Essential Google Cloud Infrastructure: Foundation.