B Susanth Srivatsa

Portfolio: ssbodapati.github.io

Hyderabad, India
8801605354
susanth.bodapati@gmail.com
https:/www.linkedin.com/in/ssbodapati

Product specialist on Analytics and Machine Intelligence with 6+ years of experience in conceptualizing, building and deploying data-driven solutions.

Experienced in delivering products to drive growth and optimize business

Experience Timeline

- Experience in building and delivering products around Data Analytics, Pattern Recognition and Data Interpretation – 6 years
- Managerial / Project Lead Experience – 3.5 years
- Overall working experience – 6 years and 3 months

Technical Skill Sets

- **Python for statistical analysis, data mining and machine learning.**
- **NodeJS, ExpressJS and MongoDB stack for building scalable dashboards.**
- **Apache Spark with Python - PySpark API- SparkSQL and Spark MLlib.**
- **ML Model deployment on-Prem or on PaaS solutions.**
- **Charting libraries on JavaScript: ChartJS, HighCharts, PlotlyJS |Python: Matplotlib and Seaborn**

Work Experience

09.09.2016 – PRESENT

Engineer-Data Processing/ Indian Railways, Govt. of India

- Conceptualised and delivered analytical and Intelligent products on Asset tracking and Utilisation , Predictive Maintenance , Finance and Supply chain analytics
- Lead a team of employees and contractors on the execution of products. Team members have multiple levels of seniority and experience.
- MVP first approach , Optimising utilisation of available resouces - men , material and money to deliver a working prototype to showcase PoC and thereby driving trust amongst stakeholders.
- Improved Safety , Reliability and availability of rolling stock by analysing enterprise

19.01.2015 – 22.05.2016

Technical Analyst / IBM India

- Aligned with the Global Technical Solutions vertical to a large electronics retail client.
- Incident resolution and BI reporting on application outage tickets logged with service desk.
- BI reporting on WAN incidents and P2/P3 application outages.
- Reporting and analyzing data on the MCE platform to stakeholders on a bi-monthly. Automated this report by consuming an API shared by data engineering team.

Analytics Products delivered

Predictive Analytics on Spherical Roller Bearings

Contribution: Data Aggregation, Data Wrangling, Anomaly detection model and Analytical Dashboard

- Deployed anomaly detection - isolation forest algorithm to identify anomalies in bearings of passenger coaches. This helped in modeling the stress and strain experienced and RUL.
- Training data was taken from a cluster of accelerometers sampling at a rate of 20Khz.
- This proof of concept on raw data can be further deployed at scale on acoustic monitoring for bearings.

Inventory Review using Clustering (K-Means Algorithm)

Contribution: Data Wrangling, Clustering model and Analytical Dashboard

- Collecting data of material drawl from stores and cleaning the data to end up with rate of consumption, unit cost, lead time, number of suppliers and AAC-Anticipated Annual consumption
- Post this, using k-means clustering algorithm ~ custom built using the mathematical equivalent to find clusters of stock.
- Based on this, the items were divided into A, B and C category for inventory management.
- This model will fetch higher savings once deployed for material consumption review.

Anomaly detection using Isolation Forest

Contribution: Data Aggregation, Data Wrangling, Clustering model and Analytical Dashboard.

- Developed an interactive dashboard for tracking anomalies in critical parameters such as Current, Voltage, RPM and Vibrations of important motors in CNC machines.
- IoT boards programmed to record data into a MongoDB instance on a local server.
- An interactive NodeJS web app was developed for interacting with data and reading the anomalies.
- Also implemented a module for analyzing statistical inferences like, type of distribution, mean, variance and standard deviation of the data.
- This statistical inference helped in getting deeper insights on what would be the perfect sample size to test hypothesis on threshold value for alarms.
- This model will reduce the unforeseen downtime and maintenance times

Cycle time optimization

Contribution: Data Aggregation, Data Wrangling, Clustering model and Analytical Dashboard.

- Problem Statement: Optimization of cycle time to turn out 75 NMG coaches with the least possible outsourcing and 100% drawing and welding compliance.
- Used clustering technique(k-means) to cluster all the activities based on two KPIs man hours and material cost spent. After clustering, the optimum route or the least resistance path was suggested.

Full Stack Web Products delivered – NodeJS+MongoDB

Time Analytica – Kanban boards implementation with NodeJS and OAuth

Contribution: UI, Backend on NodeJS and MongoDB integration

- Developed a Kanban Board tool with NodeJS and Express JS using Passport-JS as authentication library.
- Implemented Google OAuth using passport JS for easy login, also integrated with custom SSO platform.
- High level project view and low-level task view. Volumetric time trends analysis on a dashboard using ChartJS, PlotlyJS and Mongoose.

Signal Location App – Mobile web app wrapped in a WebView (APK)

Contribution: UI , APK and Backend on NodeJS and MongoDB integration

- A responsive NodeJS web app built using ExpressJS to show the current locations and type of railway signals in one division. Almost 2400+ signals were recorded with kilometer readings and digitized.
- This web app was deployed on premise and wrapped in a WebView for shipping as an APK.
- Admin console with login and rights to update / modify the signal aspect anddescription
- High level view for the manager about the signals of different types with volumetric break up.
- Implemented a two style UI with slide or carousel view of each signal and list view of all the signals.

Production Analytica – Cycle time tracking web application

Contribution: UI, Backend on NodeJS and MongoDB integration

- Developed a production management system using NodeJS and MongoDB backend.
- The application is basically a time tracking tool that tracks the complete overhauling process of an Indian railway passenger coach throughout all stages.
- An interactive drag and drop interfaces were developed using DragullaJS for moving the coaches throughout the process flow. Using the movements, a transaction collection was updated that kept a track of number of movements and time spent.
- AXIOS was used to trigger database CRUD operations on drag and drop.
- A delivery tracking style progress indicator was developed for the higher-level management to see the progress of all coaches in the unit and their respective overhauling progress.
- This minimalist yet effective application help in **reducing the cycle time almost by18%.**
- Modular backend, can be integrated with an automation approach using RFID scanners andtags.

Gradients and Caution Management

Contribution: UI, Backend on NodeJS, MongoDB integration and Heroku deployment.

- Problem Statement: How to capture the gradient of the railway track and caution orders and display them in real time to loco pilots.
- Used NodeJS as backed and MongoDB atlas cluster for data base. This app consists of two modules. First one is an advanced line chart with multiple traces depicting different aspects such as maximum permissible speeds and traction loads.
- Second module is an admin console that lets the admin create new caution orders, speed limits and warning boards between a specific range of kilometers. This will create a new trace with a different color than the gradient chart, based on the caution type.

Education

FEB'2021 – PRESENT

MTech Artificial Intelligence/ Indian Institute of Technology, Jodhpur

Executive Programme MTech in AI for working professionals under department of computer science.

JUNE'2011-JULY'2015

BTech Electrical & Electronics Engineering / JNTU, Hyderabad

BTech in Electrical and Electronics Engineering with distinction.

Certifications

Data Scientist - IBM, Professional Certificate

Credential ID: TYX4GFF5KWA6

- Tools: Jupyter Lab and Watson Studio
- Libraries: Pandas, NumPy, Matplotlib, Seaborn, Folium, pythons, Scikit-learn, ScipPy, etc.
- Projects: random album generator, predict housing prices, best classifier model, battle of neighborhoods

AI Engineering - IBM, Professional Certificate

Credential ID: 6W2DYRUF3A5Q

- Machine Learning with Python
- Scalable Machine learning with Apache Spark
- TensorFlow and Keras
- TensorFlow lite and TensorFlow Js.

Data Scientist - Tableau

- Creating visualizations for the data extracted with the help of Tableau
- Identifying patterns and deliver meaningful insights from data
- Designing responsive dashboards for different view port sizes
- Developing reference documents or reports for the finalized project.

Chartered Engineer India

Credential ID: AM1946075

- Affiliated with Institute of Engineers India as a Chartered Engineer and Associate Member in Electrical Engineering Division

Awards

- Principal Chief Engineer Excellence Award (2020)
- Best technical paper, Osmania University (2014)

Personal Information

- Date of Birth: 15-01-1994
- Languages familiar with: English, Hindi and Telugu.