Prathamesh Satyawan Mahankal

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SKILLS AND ACHIEVEMENTS

- **Technical Skills**: Python (pandas, NumPy, scikit-learn, Matplotlib), R, SQL, Tensorflow, Spark, Hadoop, AWS, Docker
- **BI Tools**: Tableau, IBM Cognos, Google Analytics, Advanced Excel, Power BI, Adobe Analytics
- **Machine Learning**: Linear Regression, Discriminant Analysis, SVM, Decision Trees, Random Forest, XGBoost, K-Means, kNN
- Won the **Rising Star** award at **NASA's** International Space Apps Challenge Hackathon 2019.

PROFESSIONAL EXPERIENCE

The University of Washington, Seattle, USA January 2020 - Present

Graduate Teaching Assistant

- Helping students understand several DBMS concepts like Entity-Relationship Modeling, Database Design and Normalization, Transaction Management, Views, Stored Procedures, Functions, Joins, NoSQL and Database Applications.
- **Technologies and tools used: SQL Server Management Studio, Lucidchart, Tableau, Power BI**

Bank of America, Mumbai, India June 2017 - August 2019

Data Analyst

- Collected, cleaned and analyzed large unstructured equity trade data, as a part of a multicultural Big Data Analytics team.
- Engaged in multiple business meetings to understand the challenges faced by the clients along with their business requirements.
- Created analytical data visualizations using Tableau to assist the clients understand their trade activity better.
- Singlehandedly spearheaded the development and operation of a major Data Warehousing package used by the team.
- Automated several processes within the team using scripting, thus increasing the overall productivity of the team by 60%.
- Worked with cross-functional teams on several data-driven problems like Brexit that involved several important tasks requiring exceptional research, analytical, strategic thinking, storytelling, critical thinking and presentation skills.
- **Technologies and tools used: Python, R, SQL, Advanced Excel, IBM Cognos, KDB+/Q, Tableau**

CoE-CNDS (Center of Excellence in Complex & Nonlinear Dynamical Systems), VJTI, Mumbai, India August 2016 - May 2017

Project Lead

- Led a team in developing an Industrial IoT project that used the Wireless Hart technology to collect humidity and temperature data and then upload this real-time data to the AWS platform for cloud computing and analysis.
- Maintained effective communication with the team and the stakeholders to ensure project efficiency and collaboration.
- **Technologies used: WirelessHART system, Amazon Web services (AWS), Flask and Python**.

EDUCATION

The University of Washington, Seattle, USA September 2019 –May 2021

Master of Science - Information Management - Data Science

Relevant Courses: Natural Language Processing, Business Intelligence, Machine Learning, Statistical Modeling, Strategic Leadership

Veermata Jijabai Technological Institute (VJTI), Mumbai, India August 2013 – May 2017

Bachelor of Technology - Electronics Engineering

Relevant Courses: Computer Programming, Statistics, Numerical Techniques, Applied Mathematics, Image Processing.

RELEVANT PROJECTS

Using Behavioral Science and Machine Learning to Fight Climate Change

- Designed a web platform that analyzes county-wise environmental metrics and uses inference-based Machine Learning algorithms to detect the exact problem faced by that county and suggest tasks to individuals based on the problem.
- Won the **Best Customer Validation** award for this project at the Techstars Startup Weekend Seattle, a two-day hackathon.

Retail Business Process Improvement Using Data Science Methods

- Analyzed the problems faced by a departmental store at the UW using Python and applied problem-solving skills to develop solutions that resulted in improved profits, better customer service, reduced food wastage, and increased employee satisfaction.
- Performed Time-Series Analysis using ARIMA to forecast demand for each item, thus facilitating better inventory management.

Text to Speech Using Tesseract OCR (Optical Character Recognition) Engine

- Designed a system to capture an image and extract all the text from it. Converted this text file into a .wav file.
- Developed a script to binarize the image and pass it through a Tesseract OCR system using the pytesseract module.
- Incorporating additional features to recognize handwritten texts using Keras and Convolutional Neural Networks.

Movie Recommendation System using Python

- Built a content-based filtering type recommender system that uses cosine similarity score and movie metadata.
- Improved the existing model by developing a more personalized Item-Based Collaborative Filtering model.
- Leveraged a latent factor model to handle issues of scalability and sparsity. Achieved an RMSE of 0.89 for the resulting system.

Customer Segmentation Analysis using K-means Clustering

- Implemented behavioral analytics techniques to understand customer trends and determine what drives customer loyalty.
- Identified customer segments using the Recency, Frequency, Monetary (RFM) segmentation model values and proposed personalized marketing strategies to improve user engagement and retention.