

Rakesh R

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Objective

In pursuit of a career which enhances my technical and learning abilities such that it contributes to the growth and development of the organization that ultimately leads to betterment of all beings.

Experience

February 2023 – Present

Tech Mahindra

Designation: Senior Software Engineer

Role: ML Engineer

November 2018 – February 2023

Tata Consultancy Services

Designation: Systems Engineer

Role: Data Scientist (Technical Lead)

Total Experience: 6 years

Educational Qualifications

June 2018 M.Tech, Department of Electronics and Communication Engineering,
National Institute of Technology, Rourkela
Major: Communication and Networks
Advisor: Prof. S M Hiremath, Prof. S K Patra
CGPA: 7.91/10

May 2015 B.Tech, Department of Electronics and Communication Engineering,
College of Engineering Trivandrum
University of Kerala, Thiruvananthapuram
CGPA: 7.09/10

July 2011 12th Board(CBSE)
Science and Maths
Kendriya Vidyalaya Ottapalam, Palakkad
Percentage: 81.7

July 2009 10th Board(CBSE)
Kendriya Vidyalaya Ottapalam, Palakkad
Percentage: 79.6

Skill Set

Primary skills: Python, Pandas, PySpark/Apache Spark, Data Analytics, Machine learning, NLP, Flask, RESTful API, SQL, PostgreSQL.

Secondary skills: Statistical Data Analysis, Demand Forecasting, Data mining, Predictive Modeling, Deep Learning, Hadoop, Hive/Impala, Tableau.

Client Projects

- **Banking & Finance Application**

Worked on a machine learning based Banking & Finance application where multiple predictive and clustering algorithms (Logistic Regression, Random Forest, Ensemble, K-Means) were implemented to generate product recommendation scores for a customer base with several banking products based on the customer financial behavior and feedback data.

Technologies Used: Python, ML algorithms, Apache Spark, Hadoop, Flask, RESTful API.

Roles and Responsibilities: Worked as a Technical Lead by undertaking data collection, preprocessing and feature engineering techniques. Built various ML models to address business use cases and combined relevant models using Ensemble modeling. Determined project requirements and developed work schedules for the team. Delegated tasks to achieve daily, weekly, and monthly goals. Liaised with team members, management, and clients to ensure projects are completed to standard.

- **Healthcare Application**

Worked on a recommendation-based Healthcare application where reinforcement learning technique (Q-learning) is used to recommend the best approach that a medical representative can take so as to achieve sales conversion effectively.

Technologies Used: Python, ML algorithms, Apache Spark, Hadoop, Flask, RESTful API.

Roles and Responsibilities: Worked as a Data Scientist by analyzing the source data and performing EDA and preprocessing techniques on it. Developed RESTful microservices on Flask.

- **Key Performance Indicators**

Developed an analytical engine using Apache Spark and Hadoop that process calculation of multiple KPIs on Big Data.

Technologies Used: Python, Apache Spark, Hadoop, Flask.

Roles and Responsibilities: Worked as a Data Analyst by interpreting and analyzing data problems and building analytical system ensuring data quality and integrity.

- **Revenue Forecast Application in Semiconductor Domain**

Worked on a revenue forecast application in semiconductor domain where statistical/exploratory data analysis and regression techniques were used to forecast the revenue of wafer fabrication equipment for different market segments.

Technologies Used: Python, ML algorithms, Flask, RESTful API.

Roles and Responsibilities: Worked as a Data Scientist by performing statistical and exploratory data analysis on the source data and identifying the most suitable IVs for the regression analysis. Developed RESTful microservices on Flask.

- **Error Detection and Recommendation Application on Bill of Materials**

Worked on an error detection and recommendation application in semiconductor domain where association rule mining is used on the bill of materials to recommend parts of various fabrication equipment and detect errors in the bill of materials using various NLP techniques like Levenshtein distance.

Technologies Used: Python, ML algorithms, Data Mining, NLP, Flask, RESTful API, SQL.

Roles and Responsibilities: Worked as an ML Engineer by studying and analyzing the source data for relevant fields from multiple database tables. Developed rule mining algorithms from scratch and applied on the source data. Used NLP techniques to detect errors in the bill of materials. Developed RESTful microservices on Flask.

- **Automated Optical Inspection Data Mining**

Worked on a dashboard which involves KPIs related to the quantity of defects identified on the semiconductor fabrication cooling plates supplied by multiple suppliers who vendor the client company. Data extraction using python was carried out to process unstructured data. Also, developed a flask application to display high resolution images of the defects captured by the inspection tool which was integrated to the dashboard.

Technologies Used: Python, Data Mining, Tableau, Flask, RESTful API.

Roles and Responsibilities: Worked as a Data Analyst by analyzing the unstructured source data and developed a schedule job to extract the data in a structured format using data mining techniques. A dashboard was created in Tableau to capture the significant KPIs from the structured data. Developed RESTful APIs on Flask for the application to display images of the defects.

Certifications

January 2024	Microsoft Azure Fundamentals (AZ-900) Certificate Number: 0168AB-U1CF6D Microsoft Corporation
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January 2021	Python, Data Science with AI Expert Certificate Course in Python, Data Science with AI (CIT006) National Council for Technology and Training (NACTET)
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