# Summary

Simran Rajendra Chaudhari

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Data Scientist with around 2 years experience in predictive maintenance, adept at driving data-driven decisions through advanced machine learning and deep learning techniques

# Skills

**Programming Languages:** Python,R,JavaScript, SQL

**Machine Learning & Deep Learning Algorithms:** Regression, Classification, Clustering, Market Basket Analysis, Anamoly Detection, Dimension Reduction, Feature Selection, Convolutional Neural Networks, Artificial Neural Networks, Time Series Forecasting Algorithms,Recommendation Systems

**Technologies & Tools:** Django, Flask, Mircosoft SQL Server, Azure DevOps, Docker, TensorFlow, PyTorch, Scikit Learn, GIT, PySpark.

# Work Experience

**Capgemini, Pune** Oct 2023 - Present

***Data Scientist***

* Predicted mining asset health by forecasting machine behavior and collaborated with clients to pre-inform them about upcoming failures minimizing shutdowns and production losses.
* Developed a machine learning model using the XGBoost algorithm to predict the remaining useful life of the mantle liner in a gyratory crusher, allowing operators to proactively schedule maintenance activities, order replacement parts in advance, and optimize crusher performance. Achieved a maintenance cost reduction of $1.5M and decreased the number of maintenance shutdowns from 4 to 2 per year, with the model attaining an accuracy of 94.%.
* Created a machine learning model using Prophet to forecast the health of dust collector bags, providing a 14-day forecast. This model enabled regular monitoring of the dust collector’s health and allowed the extension of maintenance windows when bags still had remaining life based on model predictions.Achieved a model accuracy of 91%, reducing maintenance shutdowns from 6 to 2 per year.

***Senior Analyst*** Aug 2022 - Oct 2023

* Implemented Quadratic Regression model to detect impeller wear out failures by calculating Remaining useful life (RUL) and forecasting Risk of Failure three weeks in advance. Successfully extended impeller component lifespan by over one year compared to traditional maintenance practices. Achieved a model accuracy of 90 % for impeller condition forecast leading to enhanced operational efficiency and cost savings.
* Developed a customized Web Application using Django Framework for preliminary data analysis and data visualization.
* Created a Django Application that assesses the quality of Python and R code and generates comprehensive reports detailing code quality and providing suggestions for code improvement to enhance efficiency and maintainability using Pylint and Rlint libraries.

# Education

**B.E. in Computer Engineering** Aug 2018 - Jun 2022 MMCOE, Pune University CGPA : 8.98

# Project Work

* + **Movie Recommendation System (2021):** Implemented a Movie Recommendation System based on Content-based filtering strategy, employing cosine similarity calculations to suggest items aligned with user preferences. Engineered backend functionalities to analyze user preferences and item attributes such as lead actors, directors, and genres, ensuring accurate and personalized recommendations. Designed a visually appealing movie website frontend using Django, enhancing user experience and engagement with the recommendation system
  + **Twitter Sentiment Analysis (2019):** Developed a dynamic Twitter Sentiment Analysis Web App using Django Framework, leveraging Tweepy for Twitter API integration and TextBlob for sentiment analysis. Engineered data parsing algorithms to extract and analyze tweet sentiments based on subjectivity and polarity, facilitating real-time sentiment insights for users.