Use Case

Air Quality Index

Function : #Predicting Air Quality | **Industry :** #Smart City

rubiscape© make sense

Goal

- To predict the level of air pollution in a particular area, based on the various pollutants.
- To forecast AQI for the further months informing the risk of exposure to different pollution levels.

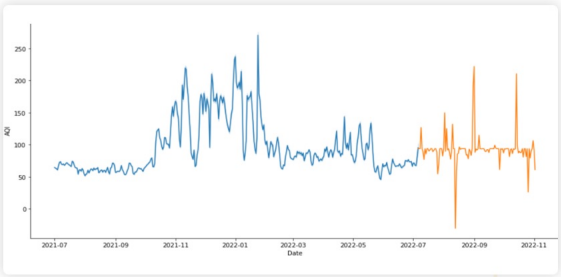
Technique

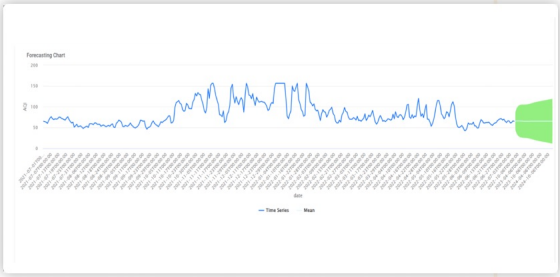
- Statistical Analysis
- Time Series Forecasting
- Regression Analysis
- Visualization

Impact

- Investing in initiatives that directly contribute to air quality improvement.
- Understanding the environmental impact by the release of the pollutants and to take timely action.

Result





Value Points

Understand the **what, why, when, where** & **how**

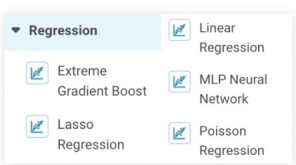
Exploratory Analysis

Exploratory Data Analysis On The Preprocessed Data To Derive Meaningful Data Insights

Heat map illustrating correlation among attributes

Exploratory data analysis enables business owners to derive meaningful insights and making better data-driven decisions as opposed to intuitive ones.

Regression Analysis

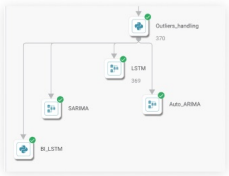


Model fitted	Accuracy
LINEAR REGRESSION	64%
DECISION TREE REGRESSOR	96%
RANDOM FOREST REGRESSOR	98%

Applied regression algorithms to predict AQI, and then based on accuracy metric, best fit is identified

Regression analysis helps in informed decision-making, policy formulation, resource optimization, and collaborative efforts to address air quality issues.

Forecasting



Forecasting air quality index for next months using Auto-ARIMA, LSTM, etc.

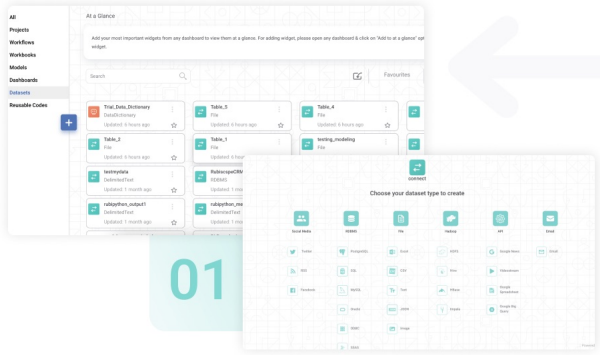
Using the forecasting insights, prescriptive analysis can be conducted to understand the environmental impact by the release of the pollutants and to take timely action.

Multi Persona DSML Platform

For all your data needs- Data Engineering, Data Science, Data Visualisation, IoT

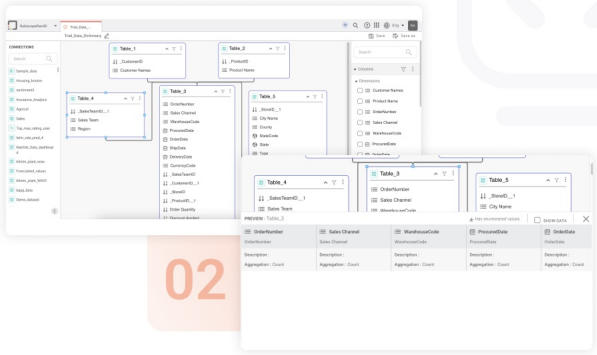
rubiscape
make sense

Data Connect



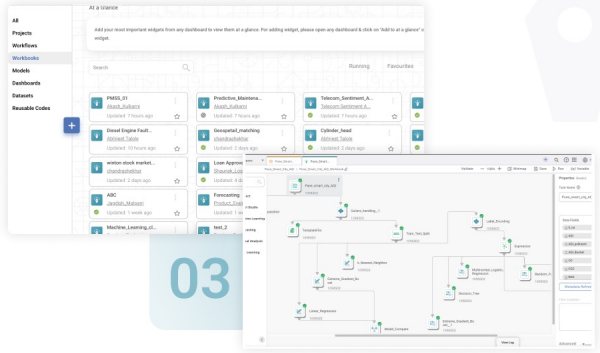
Air Quality Index

Metadata Manger



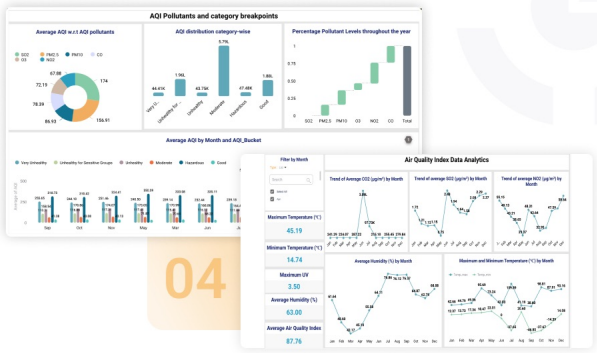
Comprehensive Data Operations, encompassing Metadata Management

Model Studio



Modeling, encompassing the selection and configuration of models

Visualisation



Viz Ops, Illustrating The Core Trends And Graphical Representations

Agile Data Science

Encapsulating **best practices**, tools and **methods**

Data Ops

Data Architect · Data Manager

ML Ops

ML Experts · Data Scientist

Viz Ops

CXO · Analyst

Tech Ops

Administrator · Cloud architect

Ideate

- What is the **goal**?
- How can you leverage the **data**?
- What do you want to **predict**?

Acquire

- How is data **sampled**?
- Which data is **relevant**?
- Any data **privacy** issue?

Explore

- Plot the **data**
- Are there **anomalies**?
- Are there **patterns**?

Model

- **Build** a model
- **Fit** the model
- **Validate** the model

Present

- What did we **learn**?
- Do the results make **sense**?
- Can we tell a **story**?

Deploy

- Where to **Deploy**?
- What is the **Structure** of Pipeline?
- How to **Optimise** and **Scale**?