IBM NAAN MUDHALVAN

APPLIED DATA SCIENCE

COVID-19 VACCINE ANALYSIS

PHASE – 2 PROJECT SUBMISSION

INTRODUCTION:

* + The main objectives of this project is to conduct an in depth analysis of covid – 19 vaccine data, including efficacy, distribution, and adverse effects, to provide insights that aid policy makers and health organizations in optimizing vaccine deployment strategies.
  + Analyse of covid – 19 vaccine all over the world with its benefits and results of the persons who put covid – 19 vaccine is the main objective here.
  + Analysing of the covid – 19 vaccine help to discover the advantages and disadvantages of vaccine and help to find the spreading range of covid – 19 to supply more number of covid – 19 vaccines at the particular areas.

PROBLEM DEFINITION:

The problem is to conduct an in-depth analysis of Covid-19 vaccine data, focusing on vaccine efficacy, distribution, and adverse effects. The goal is to provide insights that aid policymakers and health organizations in optimizing vaccine deployment strategies. This project involves data collection, data preprocessing, exploratory data analysis, statistical analysis, and visualization.

DESIGN THINKING:

* **Data source**:
* Utilize a dataset containing covid – 19 vaccine data all over the world includes distribution, effects, etc…
* Vaccine analysis with machine learning can draw from two ways: internal and external
* **Data preprocessing**:
* Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.
* **Feature engineering:**
* Create additional features that could enhance the predictive power of the model, such as time based feature.
* **Model selection:**
* Choose suitable model to analyse the covid – 19 datasets further for better understand of the dataset.
* **Model training:**
* Train the selected model using the preprocessed data and check whether the selected model is the optimal one.
* **Evaluation**:
* Evaluate the model’s performance using appropriate time series forecasting metrices

Dataset link: <https://www.kaggle.com/datasets/gpreda/covid-world-vaccination-progress>