QUICKSTART
Over 35 Years Of Technology Training

# Data Analytics and Visualization

## Capstone Project

## Introduction:

Imagine you've just landed a prestigious role as a data analytics specialist in a leading firm. Your inaugural mission: to seek out a like-minded partner to join forces with you on a thrilling expedition through the vast and varied data landscapes of different industries.

Once you've chosen your trusted ally to accompany you on this data-driven journey, it's time to delve into the heart of our quest. Together, let us select one scenario from the options below and commence our collaborative efforts in deciphering the mysteries concealed within the data:

### Why It's Interesting and Real-World Applicable

- **Widely Needed:** Data analytics are essential for nearly any company that sells products or services. Understanding trends, performance, and customer data is key for strategic decision-making.
- **Shows Diverse Skills:** This project involves data cleaning (SQL), modeling (likely in SQL), and compelling visualization (Power BI).
- **Flexible Data:** You can use a real dataset available to you on the bottom of the page for maximum impact.

## Deliverables:

1. **Healthcare/Clinical Data Analysis**

- **Dataset:** Depending on availability, explore public datasets including clinical trial data, patient records, genomic data (Use caution regarding security and privacy – anonymization is critical).
    - Use this link to access the data https://www.kaggle.com/datasets/prasad22/healthcare-dataset
- **Processes:**
    - **Data Analysis:** Identify patterns and correlations within complex healthcare datasets (Python, Power BI).
    - **SQL:** Data preparation and organization.
    - **Python:** Exploratory data analysis, and potentially building models for patient risk prediction or treatment outcome analysis (if applicable).
    - **Power BI:** Visualize results, trends, and support research efforts.

- **Real-World Impact:** Contribute to potential improvements in patient diagnosis, treatment optimization, and resource management in the healthcare sector.

## Submission:

To successfully complete this project, you must perform the following.

You will have to submit 3 files.

**First File word document containing below.**

- Summary of your project
- Methodology used.
- Predicted target and achieved target.

**Second file**

- It should have screenshot of your final result.

**Third file**

- It should have a code base SQL and PowerBI file. (Zip both files together and upload)

## Project Grading:

*To pass the project, Instructor should take below criteria into consideration while grading this exercise and deciding whether to Pass or Fail the student.*

- Data Cleaning & Transformation
- Calculations & Aggregations
- Visualization Choices
- Interactivity
- Design

**PC Minimum Requirements:**

- You must have access to a Windows PC to complete the projects. All projects are performed within a virtual environment.
- Minimum hardware requirements:
- Intel i3 processor or better, 64 bit . Processors must support virtualization.
- 8GB RAM memory (16GB highly recommended)
- 100GB of available main drive space (not USB or external)
- Windows 10/11 (Home or Pro) (not S mode)

You will use this PC and virtual environment for the duration of the program.

Please follow these steps to get your PC information and view screenshot below for your reference

- Click on start
- Type “This PC “
- Right Click on “This PC “
- Go on properties.
- Then you will be directed to below page where you will find your PC information