

**KGISL Institute of Technology**

**Course Name: Data Analytics**

## **Project Name:** Air Q Assessment TN

**Problem Statement:**

The project aims to analyze and visualize air quality data from monitoring stations in Tamil Nadu. The objective is to gain insights into air pollution trends, identify areas with high pollution levels, and develop a predictive model to estimate RSPM/PM10 levels based on SO2 and NO2 levels. This project involves defining objectives, designing the analysis approach, selecting visualization techniques, and creating a predictive model using Python and relevant libraries.

**Description:**

The project focuses on analysing and visualizing air quality data collected from monitoring stations across Tamil Nadu. Its primary objective is to extract valuable insights regarding air pollution trends in the region, pinpoint areas with consistently high pollution levels, and ultimately construct a predictive model capable of estimating Respirable Suspended Particulate Matter (RSPM) and Particulate Matter (PM10) levels based on the concentrations of sulphur dioxide (SO2) and nitrogen dioxide (NO2). To achieve these goals, the project will employ Python programming and relevant libraries for data analysis, visualization, and machine learning. The workflow will encompass several key steps, including data preprocessing, exploratory data analysis, spatial and temporal analysis, predictive model development, and the creation of informative visualizations. Ultimately, the project aims to provide actionable insights to local authorities, aiding in more effective air quality management and fostering a healthier environment in Tamil Nadu. The collaboration will involve a team of data scientists, domain experts in environmental science, and local authorities responsible for air quality control, ensuring a comprehensive and impactful approach to addressing this critical issue.

**Team members:**

EBEN F GABRIEL

VIGNESHWARAN P

NIMISHA P S

MIRTHIKA S

**Team mentor:**

INDU POORNIMA R