NAAN MUDHALVAN PROJECT PHASE 2: Air quality analysis in tamilnadu

- Data Collection: Gather data on air quality parameters, such as PM2.5, PM10, carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide (NO2), ozone (O3), and volatile organic compounds (VOCs). This data can be obtained from government monitoring stations, environmental agencies, or by using air quality sensors.

- Sensor Deployment: If needed, deploy air quality sensors in different locations to get real-time data. Many organizations and researchers use IoT-based sensors for this purpose.

- Data Analysis: Use specialized software or tools to analyze the collected data. This might involve statistical analysis, trend identification, and correlation studies to understand patterns and pollution sources.

- Spatial Mapping: Create air quality maps to visualize variations across different regions in Tamil Nadu. Geographic Information System (GIS) tools can be helpful for this.

- Source Identification: Determine the sources of air pollution. This could include emissions from industries, vehicles, construction, or natural sources. Source apportionment studies can be conducted for this purpose.

- Health Impact Assessment: Assess the potential health impacts

of poor air quality, considering the population in various regions. This involves epidemiological studies and risk assessment.

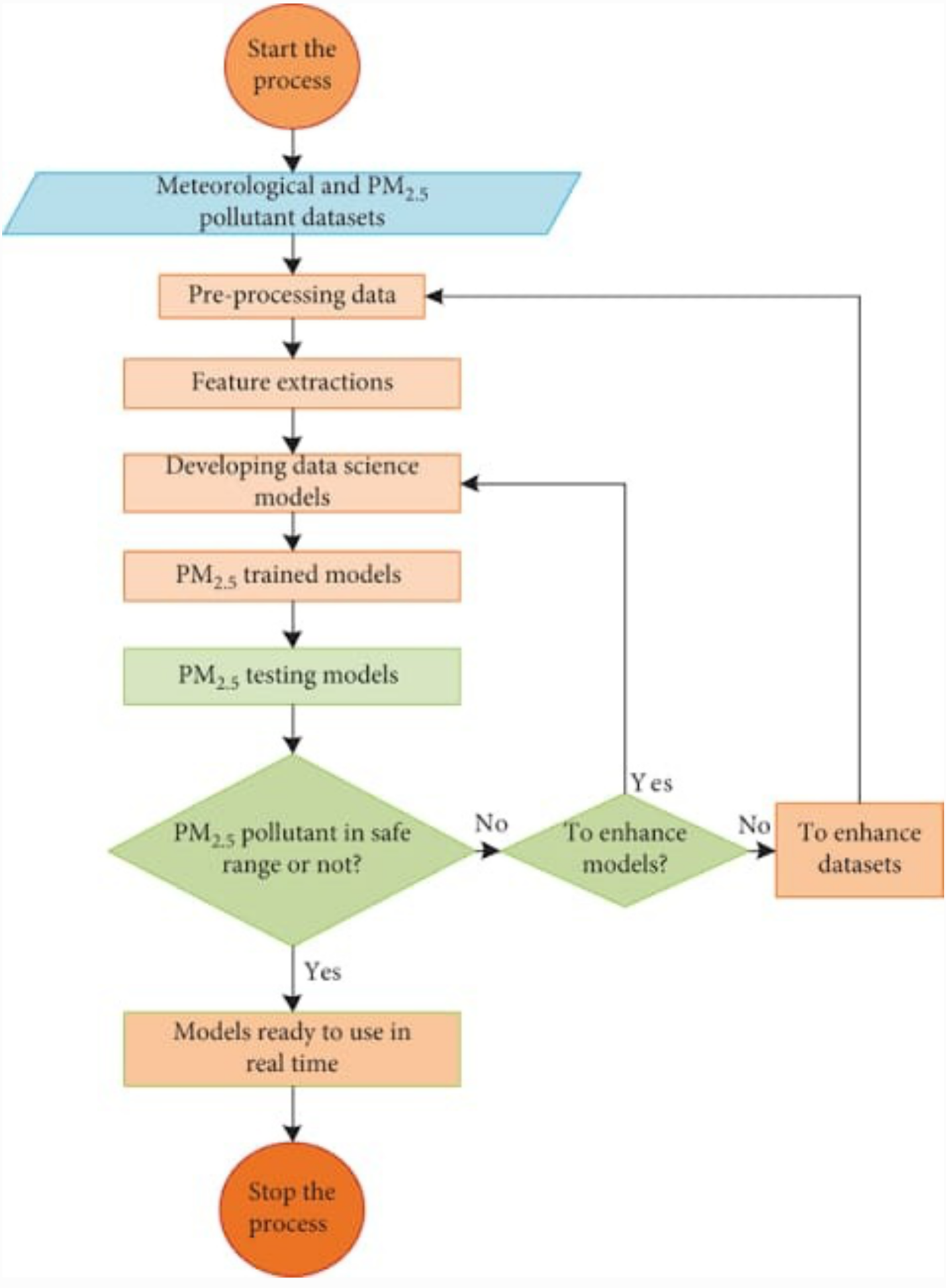
- Policy Recommendations: Based on the findings, make recommendations for policy changes or interventions to improve air quality. This might include stricter emission standards, traffic management, and public awareness campaigns.

- Monitoring and Reporting: Continuously monitor air quality and provide regular reports to authorities and the public. Transparency is crucial for addressing air quality issues effectively.

- Collaboration: Collaborate with environmental agencies, research institutions, and non-governmental organizations to improve the quality of air monitoring and management.

- Public Awareness: Educate the public about the importance of air quality and what individuals can do to reduce their impact on air pollution.

- Remember that air quality analysis is an ongoing process, and it requires collaboration between various stakeholders to make meaningful improvements.


Start the process
Meteorological and $PM_{2.5}$ pollutant datasets
Pre-processing data
Feature extractions
Developing data science models
$PM_{2.5}$ trained models
$PM_{2.5}$ testing models
$PM_{2.5}$ pollutant in safe range or not?
No
To enhance models?
Yes
No
To enhance datasets
Yes
Models ready to use in real time
Stop the process