CITY CLEANLINESS ML MODEL

TEAM GRADIENT

TEAM MEMBERS

TEAM MEMBERS:

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PROBLEM STATEMENT

- Project Objective:

Develop a machine learning (ML) model to predict cleanliness scores of Indian cities for the upcoming year

Utilizes statistical data from Kaggle.

- Challenges in Prediction:

Accurately forecast cleanliness scores.

- Analyze factors such as:

Waste Management

Water Quality

Public toilets

Community Participation

Street Cleanliness

Data Collection:

Diverse features related to urban cleanliness.

Data sourced from multiple platforms for comprehensive analysis.

Methodology:

Employ advanced ML algorithms to identify patterns and relationships in the data.

Expected Outcomes:

Provide actionable insights for city planners and policymakers.

Enable proactive measures to improve urban sanitation.

Broader Impact:

Contribute to understanding urban cleanliness dynamics.

Support sustainable urban development initiatives in India.

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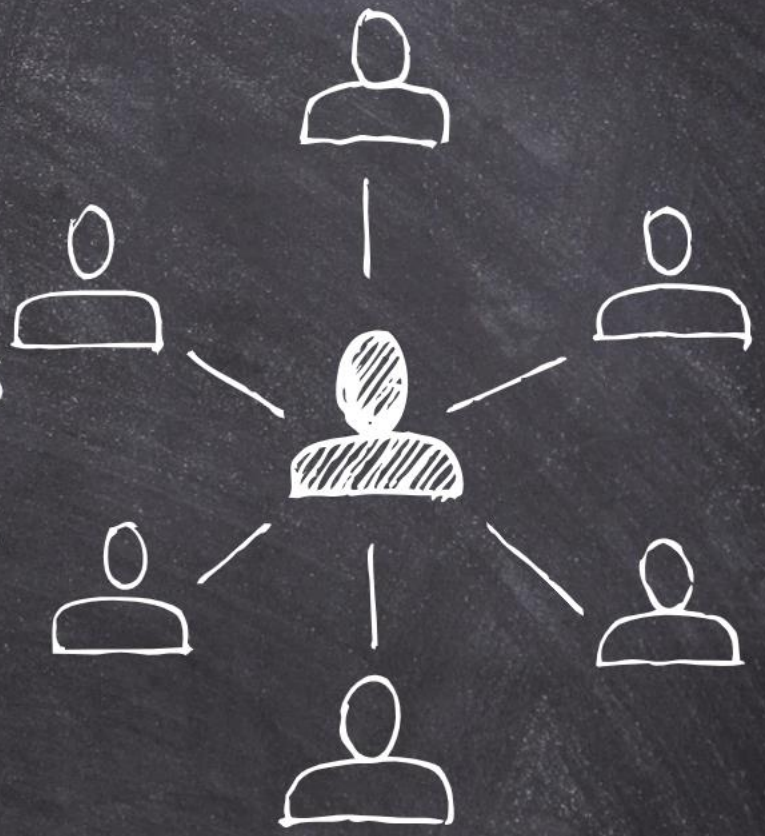
TARGET AUDIENCE

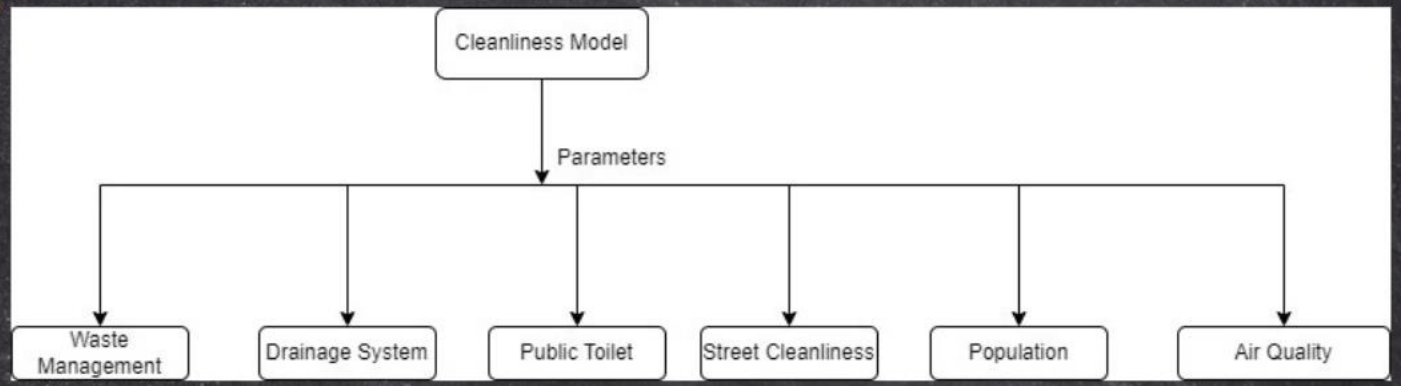
- URBAN PLANNERS AND POLICY MAKERS
- RESEARCHERS AND ACADEMICS
- ENVIRONMENTAL ACTIVISTS AND NGOS



- GENERAL PUBLIC
- GOVERNMENTAL FIRMS
- DATA ANALYSTS AND DATA SCIENTISTS

TECHNICAL ARCHITECTURE

1. Frameworks and Libraries such as Numpy, Pandas, Tensorflow etc.
2. Dataset Collection from resources such as Kaggle, Government Services etc.
3. Machine Learning Model for Prediction
4. Prediction Logic based on 3 Algorithms
5. User Interface based on Streamlit
6. Deployment Considerations



1 Enhanced Public Awareness

2 Improved Quality of Life

3 Empowerment of Local Governance

4 Community Engagement

SOCIAL IMPACT

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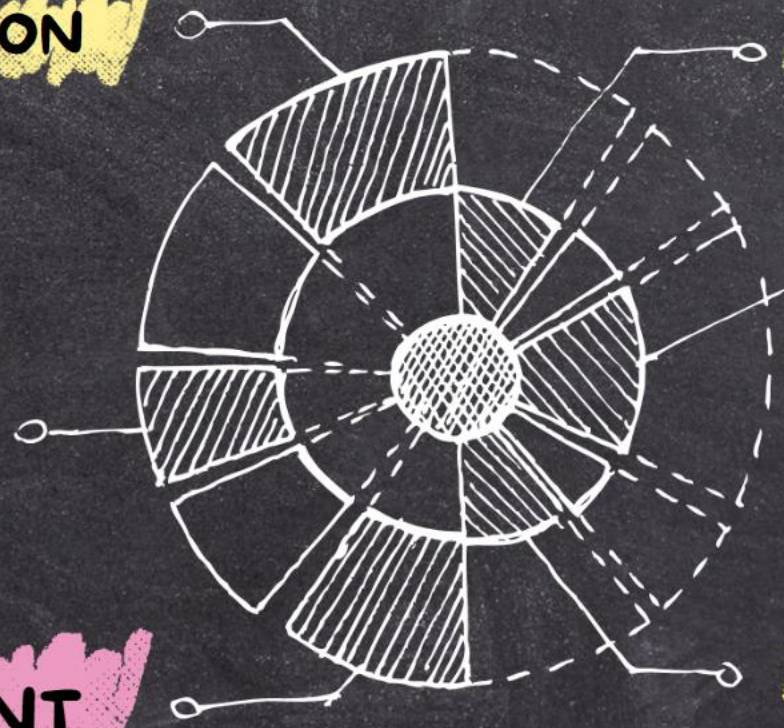
ECONOMIC IMPACT

JOB CREATION

COST SAVINGS



INCOME LEVELS

RESOURCE ALLOCATION

CITY MANAGEMENT

ATTRACTING INVESTMENTS

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ECOLOGICAL IMPACT

CLIMATE RESILIENCE

The insights gained from the model can help cities become more resilient to climate change impacts by promoting practices that enhance urban green spaces and reduce heat islands through better waste management strategies.

BIODIVERSITY PROTECTION

Cleaner urban environments contribute to healthier ecosystems within city limits. Reducing litter and pollution can protect local flora and fauna, promoting biodiversity even in densely populated areas.

POLLUTION REDUCTION

A focus on improving cleanliness can lead to initiatives aimed at reducing pollution sources within urban areas. Cleaner cities often correlate with lower emissions from waste disposal processes and improved air quality.

CONCLUSION

The creation of a machine learning model that predicts the cleanliness index of Indian cities using a Kaggle dataset has far-reaching implications across social, economic, and ecological dimensions. By fostering greater awareness among citizens, optimizing resource allocation for local governments, promoting sustainable practices, and ultimately improving public health outcomes, this initiative represents a significant step toward enhancing urban living conditions in India. The integration of data-driven decision-making processes will not only benefit current residents but also pave the way for future generations to enjoy cleaner, healthier cities.

THANK YOU

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