# SUSTAINABLE SMART CITY ASSISTANT USING IBM GRANITE LLM

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# 1. INTRODUCTION

The Sustainable Smart City Assistant is a smart AI-based solution powered by IBM Granite LLM for sustainable urban management. It integrates semantic search, anomaly detection, and sustainability report generation in a single platform to support modern smart cities.

Citizens can ask questions about city services, while authorities can monitor and get insights through anomaly detection and reports. The assistant is accessible via chat interface and REST APIs.

## 1.1 PROJECT OVERVIEW & OBJECTIVES

- Project Title: Sustainable Smart City Assistant Using IBM Granite LLM
- Goal: Support smart city sustainability via IBM Watson-powered AI

Objectives:

- Integrate Granite LLM for AI chat and document search
- Use sensor data to detect anomalies in real time
- Generate automated sustainability reports
- Offer accessible tools for citizens and city administrators

## 1.2 TECHNOLOGY STACK

Frontend: React.js, Tailwind CSS

Backend: Flask (Python), Node.js APIs

Database: MongoDB, PostgreSQL

AI: IBM Granite LLM, IBM Watsonx

APIs: RESTful Flask APIs, OpenWeatherMap

Hosting: IBM Cloud, Vercel

## APPENDIX

GitHub Repository: https://github.com/Hema98765/sustainable-smart-city-assistant.git