Sustainable smart city Assistant Using IBM Granite LLM

1.Introduction:

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Smart city Assistant using IBM Granite LLM is an

innovative AI-powered tool designed to support sustainable urban development. Here's how it works and its key features.

* Conversational Assistant: Powered by IBM Granite LLM, it answers general queries related to smart city management and sustainability.
* Eco Tips: Suggests sustainability tips based on user input topics, such as water, plastic, or energy.
* Citizen Feedback: Allows citizens to submit feedback and automatically generates polite acknowledgment messages.
* KPI Report Generator: Provides summary reports and trend insights based on user-provided KPI data.
* KPI Forecast: Forecasts next month's usage based on historical data.
* Anomaly Detection: Identifies spikes and outliers in data, such as electricity usage.
* Policy Summarizer: Summarizes long policy texts into citizen-friendly language ¹ ².
* Technical Details:
* Frontend: Built using Streamlit for a user-friendly interface.
* Backend: Powered by FastAPI for efficient data processing.
* ML API: Leverages IBM Granite LLM via Hugging Face Inference API.
* Hosting: Can be hosted locally or on cloud platforms.
* Applications:
* Urban Planning: Helps policymakers map urban growth and identify energy and infrastructure needs.
* Sustainability: Supports sustainable development efforts in cities worldwide.
* Citizen Engagement: Fosters citizen participation in urban planning and sustainability initiatives.
* Benefits:
* Data-Driven Decision Making: Enables informed decision-making for urban planning and sustainability.
* Improved Citizen Engagement: Enhances citizen participation and feedback mechanisms.
* Sustainable Development: Supports sustainable urban development and reduces environmental impact ³.