# Project Design Phase

## Solution Architecture

The Citizen AI solution architecture bridges the gap between the problem of inaccessible government information and the technological solution by integrating AI, visualization, and secure deployment components.

### Architecture Overview:

- Frontend: Streamlit-based interactive UI for real-time chat and dashboards  
- Backend: Google Colab environment running Hugging Face AI model  
- AI Model: IBM Granite-3.3-2B-Instruct deployed with PyTorch  
- Visualization: Plotly for metrics, WordCloud for topic insights  
- Deployment: ngrok tunneling for secure public access  
- Data Analysis: Sentiment analysis and topic extraction pipelines

