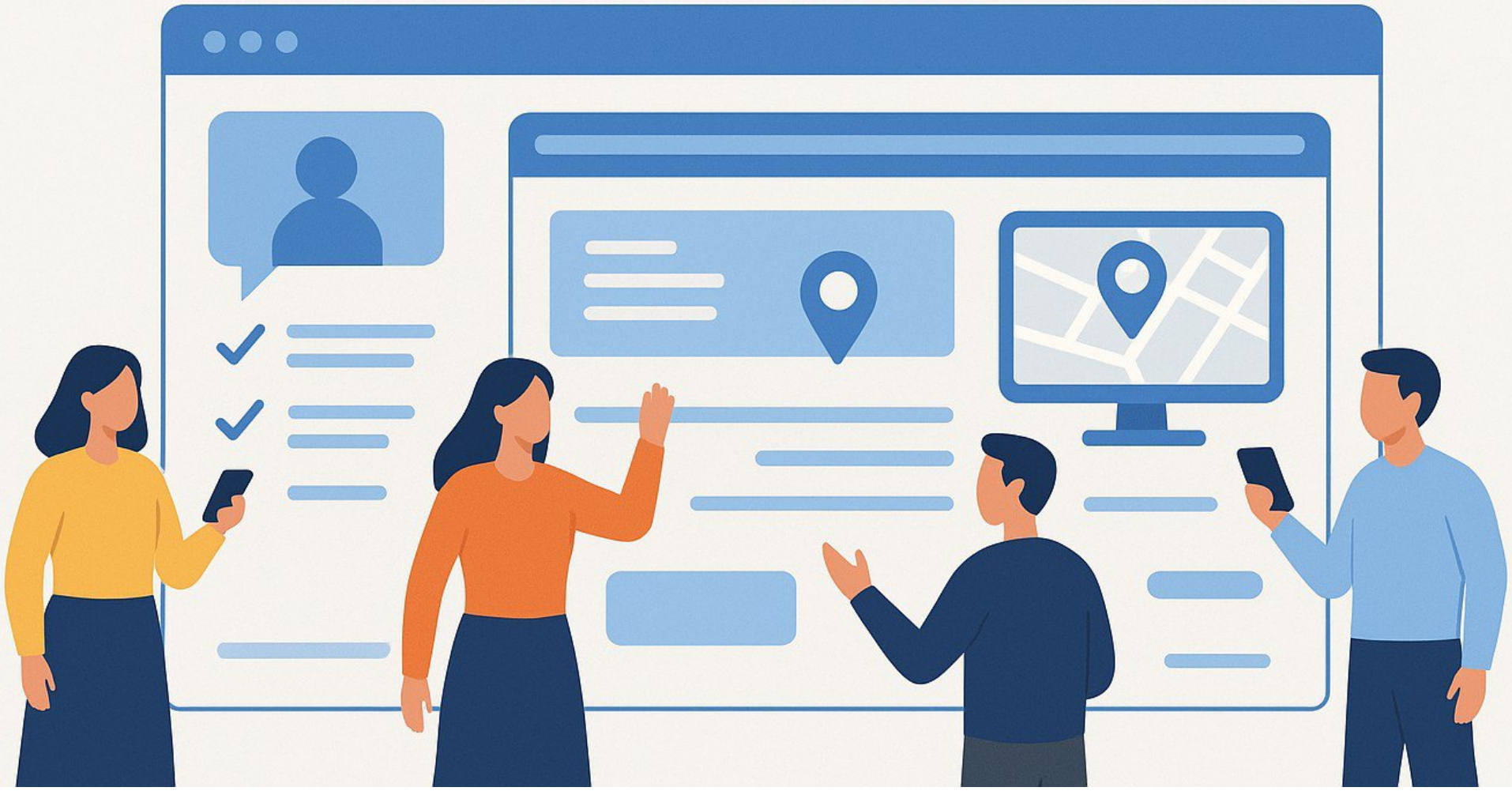
CITIZEN AI

INTELLIGENT CITIZEN ENGAGEMENT PLATFORM



PROJECT DOCUMENTATION

- **Project title: CITIZEN AI**
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PROJECT OVERVIEW

The Citizen AI project focuses on understanding how Artificial Intelligence can be developed and applied as a responsible digital citizen in society. The project highlights the core principles of ethical AI, such as transparency, accountability, fairness, privacy, and inclusiveness, while exploring its applications in governance, healthcare, education, and environmental sustainability. To support the conceptual study, a practical implementation was carried out using Google Colab with a T4 GPU runtime, where the code was executed successfully. The completed project was then uploaded to GitHub under the repository name Citizen AI for version control and collaboration. Overall, the project emphasizes the importance of building AI systems that not only solve problems but also align with societal values and contribute positively to human life.

INTRODUCTION

Citizen AI refers to the responsible and ethical use of Artificial Intelligence (AI) in society. It emphasizes not only building intelligent systems but also ensuring that these systems act in ways that respect human values, fairness, transparency, and accountability.

As AI becomes deeply integrated into everyday life—healthcare, education, business, governance—its impact on individuals and communities is growing. Without responsibility, AI can lead to issues like bias, inequality, job displacement, and misuse. Hence, developing “Citizen AI” ensures that AI systems contribute positively to society while safeguarding ethics and rights.

BACKGROUND OF CITIZEN AI

1.Growth of AI in different fields:

AI has seen tremendous growth across industries such as healthcare (diagnosis tools), finance (fraud detection), education (personalized learning), agriculture (smart farming), and governance (public services).

2.Need for responsible AI:

The great power comes responsibility. AI can amplify human potential,but it also poses risks such as algorithmic bias, loss of privacy, and ethical dilemmas. Responsible AI is essential to maintain trust, fairness, and inclusivity.

3.Relation between AI & Citizenship:

Ai just like citizens have rights and responsibilities in society, AI systems also be designed with responsibility and accountability. AI as a “digital citizen” should follow ethical principles, respect human rights, and align with societal values. This analogy bridges the gap between technology and human society, ensuring harmony between innovation and ethics.

Objectives of Citizen AI

1. Understanding Citizen AI

To study and define the concept of Citizen AI, explaining how AI can act as a responsible digital citizen in society.

2.Analyzing AI's Growth

To explore the rapid development of AI in different fields like healthcare, education, governance, and business.

3.Promoting Responsible AI

To highlight the need for ethical, fair, and transparent AI systems that respect human rights and values.

4.Connecting AI and Citizenship

To examine the relationship between AI and human citizenship BG principles, such as accountability, trust, and responsibility.

5.Identifying Risks

To study challenges such as bias, privacy issues, job displacement,and misuse of AI technologies.

6.Suggesting Solution

To recommend measures for developing AI systems that are trustworthy, inclusive, and beneficial for society.

7.Encouraging Awareness

To promote digital literacy and awareness among people about AI's role and responsibilities in society.

8.Supporting Sustainable Development

To explore how Citizen AI can contribute to a fair, safe, and Sustainable future.

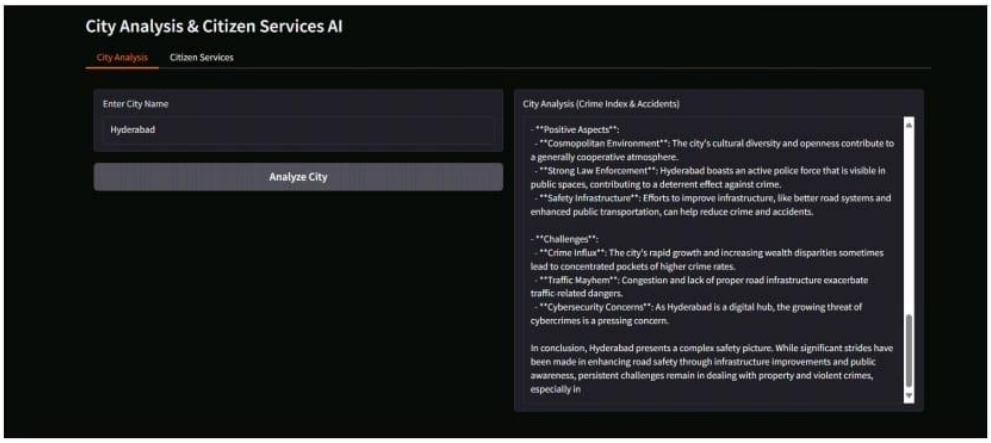
CODING

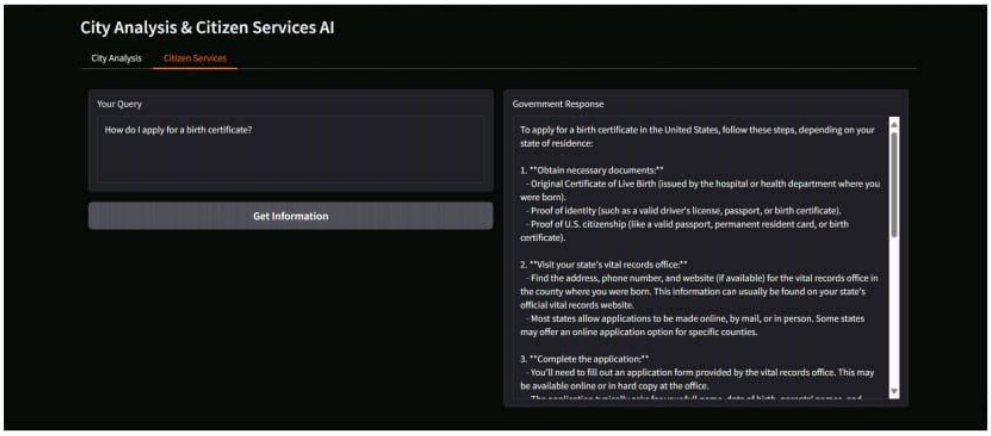
```
!pip install transformers torch gradio -q

Import gradio as gr

Import torch

From transformers import AutoTokenizer, AutoModelForCausalLM

# Load model and tokenizer

Model_name = “ibm-granite/granite-3.2-2b-instruct”

Tokenizer = AutoTokenizer.from_pretrained(model_name)

Model = AutoModelForCausalLM.from_pretrained(

  Model_name,

  Torch_dtype=torch.float16 if torch.cuda.is_available() else torch.float32,

  Device_map=”auto” if torch.cuda.is_available() else None

)

If tokenizer.pad_token is None:

  Tokenizer.pad_token = tokenizer.eos_token

Def generate_response(prompt, max_length=1024):

  Inputs = tokenizer(prompt, return_tensors=”pt”, truncation=True, max_length=512)

  If torch.cuda.is_available():

    Inputs = {k: v.to(model.device) for k, v in inputs.items()}

  With torch.no_grad():

    Outputs = model.generate(

      **inputs,

      Max_length=max_length,

      Temperature=0.7,
```

```
        Do_sample=True,
        Pad_token_id=tokenizer.eos_token_id
    )
    Response = tokenizer.decode(outputs[0], skip_special_tokens=True)
    Response = response.replace(prompt, “”).strip()
    Return response
Def city_analysis(city_name):
    Prompt = f”Provide a detailed analysis of {city_name} including:\n1. Crime Index and safety statistics\n2. Accident rates and traffic safety information\n3. Overall safety assessment\n\nCity: {city_name}\nAnalysis:”
    Return generate_response(prompt, max_length=1000)
Def citizen_interaction(query):
    Prompt = f”As a government assistant, provide accurate and helpful information about the following citizen query related to public services, government policies, or civic issues:\n\nQuery: {query}\nResponse:”
    Return generate_response(prompt, max_length=1000)
# Create Gradio interface
With gr.Blocks() as app:
    Gr.Markdown(“# City Analysis & Citizen Services AI”)
    With gr.Tabs():
        With gr.TabItem(“City Analysis”):
            With gr.Row():
                With gr.Column():
                    City_input = gr.Textbox(
                        Label=”Enter City Name”,
```

```
            Placeholder="e.g., New York, London, Mumbai...",
            Lines=1
        )
        Analyze_btn = gr.Button("Analyze City")
      With gr.Column():
        City_output = gr.Textbox(label="City Analysis (Crime Index & Accidents)", lines=15)
    Analyze_btn.click(city_analysis, inputs=city_input, outputs=city_output)
  With gr.TabItem("Citizen Services"):
    With gr.Row():
      With gr.Column():
        Citizen_query = gr.Textbox(
          Label="Your Query",
          Placeholder="Ask about public services, government policies, civic issues...",
          Lines=4
        )
        Query_btn = gr.Button("Get Information")
      With gr.Column():
        Citizen_output = gr.Textbox(label="Government Response", lines=15)
    Query_btn.click(citizen_interaction, inputs=citizen_query, outputs=citizen_output)
App.launch(share=True)
```

OUTPUT


City Analysis & Citizen Services AI
City Analysis
Citizen Services
Enter City Name
Hyderabad
Analyze City
City Analysis (Crime Index & Accidents)
- **Positive Aspects**:
- **Cosmopolitan Environment**: The city's cultural diversity and openness contribute to a generally cooperative atmosphere.
- **Strong Law Enforcement**: Hyderabad boasts an active police force that is visible in public spaces, contributing to a deterrent effect against crime.
- **Safety Infrastructure**: Efforts to improve infrastructure, like better road systems and enhanced public transportation, can help reduce crime and accidents.
- **Challenges**:
- **Crime Influx**: The city's rapid growth and increasing wealth disparities sometimes lead to concentrated pockets of higher crime rates.
- **Traffic Mayhem**: Congestion and lack of proper road infrastructure exacerbate traffic-related dangers.
- **Cybersecurity Concerns**: As Hyderabad is a digital hub, the growing threat of cybercrimes is a pressing concern.
In conclusion, Hyderabad presents a complex safety picture. While significant strides have been made in enhancing road safety through infrastructure improvements and public awareness, persistent challenges remain in dealing with property and violent crimes, especially in


City Analysis & Citizen Services AI
City Analysis
Citizen Services
Your Query
How do I apply for a birth certificate?
Get Information
Government Response
To apply for a birth certificate in the United States, follow these steps, depending on your state of residence:
1. **Obtain necessary documents:**
- Original Certificate of Live Birth (issued by the hospital or health department where you were born).
- Proof of identity (such as a valid driver's license, passport, or birth certificate).
- Proof of U.S. citizenship (like a valid passport, permanent resident card, or birth certificate).
2. **Visit your state's vital records office:**
- Find the address, phone number, and website (if available) for the vital records office in the county where you were born. This information can usually be found on your state's official vital records website.
- Most states allow applications to be made online, by mail, or in person. Some states may offer an online application option for specific counties.
3. **Complete the application:**
- You'll need to fill out an application form provided by the vital records office. This may be available online or in hard copy at the office.

PRINCIPLE OF CITIZEN AI

The Citizen AI project under the Naan Mudhalvan initiative is built on guiding principles that ensure AI is accessible, ethical, and impactful. These help citizens not only learn AI but also apply it responsibly in real-world situations.

1. **Accessibility of AI Knowledge**

AI should not remain a subject only for experts. Citizen AI makes AI concepts like machine learning and natural language processing simple and practical. It promotes open-source tools and cloud platforms, so even students with limited resources can gain hands-on experience.

2. **Responsible and Ethical AI**

AI must always be used responsibly. Citizen AI follows the FATE framework – Fairness, Accountability, Transparency, and Explainability. Learners are trained to reduce bias in data, protect privacy, and build systems that are reliable and unbiased.

3. **Human-Centric Design**

The role of AI is to support humans, not replace them. Citizen AI emphasizes solutions that improve decision-making and make life easier. For example, AI in education provides personalized learning, but teachers still guide the process.

4. **Collaboration and Co-Creation**

AI innovation grows stronger when people work together. Citizen AI encourages hackathons, open datasets, and projects, where students and communities create solutions for challenges such as smart farming and healthcare.

5**. Continuous Learning and Adaptability**

AI is fast-changing, and so must be the learners. Citizen AI builds a culture of lifelong learning through online courses and cloud labs, preparing citizens to stay updated with the latest AI tools and trends.

FEATURES CITIZEN AI

- **AI Curriculum Integration** – Python, data science, neural networks, and ethics.
- **AI-Driven Learning Platforms** – Personalized learning with AI mentors and chatbots.
- **Real-Time Tools** – Hands-on practice with cloud AI services (Google, AWS, Azure).
- **Multi-Lingual AI** – Speech and translation support for Tamil and other Indian languages.
- **Community Projects** – Hackathons, workshops, and regional problem-solving apps.
- **Responsible Governance** – Awareness on **data privacy and cybersecurity**.

APPLICATION OF CITIZEN AI

- **Education** – Adaptive learning, automated evaluation, AI-based career guidance.
- **Healthcare** – Disease detection via image recognition, AI health assistants, epidemic forecasting.
- **Agriculture** – Crop monitoring with drones, weather forecasting, AI chatbots for farmers.
- **Governance & Smart Cities** – Traffic management, grievance chatbots, waste and water monitoring.
- **Business** – AI chatbots, fraud detection, e-commerce recommendation engines.
- **Social Welfare** – Disability assistance, women safety apps, disaster prediction models.

IMPLEMENTATION

This project integrates a pretrained IBM Granite language model with a Gradio web interface.

1. Model Setup – The IBM Granite model and tokenizer are loaded with GPU acceleration (T4 GPU) for faster processing.

2. Response Generation – A function processes user prompts, generates responses using the model, and outputs clean text.

3. City Analysis Module – Accepts a city name and produces an analysis covering crime index, accident rates, and overall safety.

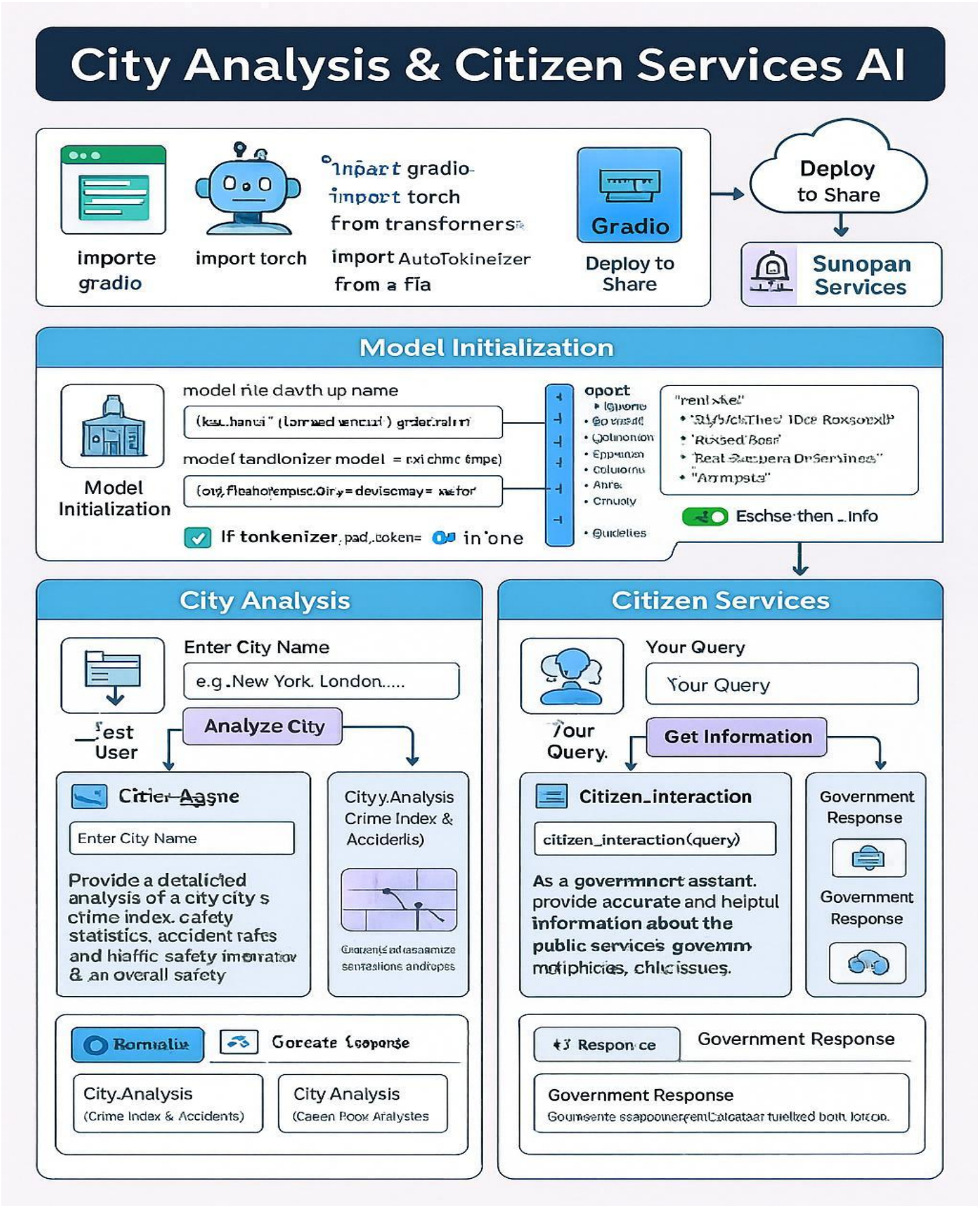
4. Citizen Interaction Module – Handles user queries about public services, government policies, and civic issues, providing clear responses.

5. User Interface – Built with Gradio, featuring two tabs:

- City Analysis for safety insights.
- Citizen Services for government-related queries.

6. Execution – The app runs on a simple web interface, allowing real-time interaction and information retrieval.

FLOWCHART


City Analysis & Citizen Services AI
import gradio
import torch
from transformers
import AutoTokenizer
from a fla
Gradio
Deploy to Share
Deploy to Share
Sunopan Services
Model Initialization
Model Initialization
Eschse then _Info
City Analysis
Enter City Name
e.g .New York. London.....
Analyze City
Provide a detalicied analysis of a city city s crime index. cafety statistics, accident rafes and hiaffic safety imeratov & an overall safety
City.Analysis Crime Index & Acciderlis)
City_Analysis (Crime Index & Accidents)
City Analysis (Caeen Poox Analystes
Citizen Services
Your Query
Your Query
Get Information
As a govermncrt asstant. provide accurate and heiptul information about the public service's govemm
Government Response
Government Response
Government Response
Government Response

CHALLENGES OF AI

While Citizen AI offers great potential, several challenges must be addressed before it can be fully integrated into society. One of the main challenges is bias in AI algorithms, where unfair or inaccurate results may occur due to biased training data. Another issue is lack of transparency, as many AI systems function as “black boxes” without explaining how decisions are made, leading to reduced trust among users. Privacy and security concerns also arise because AI systems often deal with sensitive citizen data. Furthermore, there are legal and ethical gaps, since clear policies and global standards for regulating AI are still evolving. Lastly, the digital divide prevents equal access to AI technologies, limiting their benefits to only certain sections of society.

CONCLUSION

In conclusion, the Citizen AI project demonstrates how Artificial Intelligence can evolve from being just a technological tool into a responsible entity that serves society ethically and effectively. By studying its principles, applications, challenges, and future scope, we highlight the importance of building AI systems that are fair, transparent, accountable, and inclusive. Our practical implementation using Google Colab and GitHub further supports the idea that AI can be developed responsibly and shared collaboratively. The future success of Citizen AI will depend on balancing innovation with ethical considerations, ensuring that AI benefits all sections of society while protecting human values.