Citizen AI Documentation

Project Title: Citizen AI: Intelligent Citizen Engagement platform

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1. Introduction

Citizen AI with IBM is an **intelligent citizen engagement platform** designed to help people easily access information about government services, civic issues, and public programs.
Instead of manually searching across different websites, citizens can ask questions and get **quick, AI-driven responses** powered by IBM Granite models.

One of the key features of Citizen AI is its ability to **track public sentiment** by analyzing user queries and feedback. The system provides **dashboards** that allow government officials to view the concerns and opinions of citizens in a structured manner.

This platform is built on **Generative AI** technology, ensuring that the responses are not only fact-based but also conversational and easy to understand.

Objective

The main objective of Citizen AI is to:

- Improve citizen interaction with government services
- Reduce response times with AI-generated answers

- Provide officials with tools to monitor public feedback
- Use **open-source AI models (IBM Granite)** for cost efficiency
- Deploy on **Google Colab** for accessibility without expensive infrastructure

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2. Pre-requisites

To successfully build and run the Citizen AI project, certain **skills and tools** are required:

1. **Gradio Framework Knowledge**
    - Gradio is a Python library that allows easy creation of interactive AI applications.
    - Used to build the chatbot interface for Citizen AI.
2. **IBM Granite Models (Hugging Face)**
    - IBM Granite models are powerful, lightweight AI models hosted on Hugging Face.
    - Example: granite-3.2-2b-instruct, suitable for running in limited compute environments.
3. **Python Programming Proficiency**
    - Necessary for writing and executing code in Colab.
    - Includes knowledge of libraries like transformers and torch.
4. **Version Control with Git**
    - Git and GitHub are essential for storing, updating, and collaborating on the project.
5. **Google Colab T4 GPU**
    - The project is deployed in Colab using T4 GPU for free/affordable computation.
    - Users must configure runtime settings correctly.

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3. Project Workflow

The project development is divided into **four main activities**:

- **Activity 1:** Exploring the Naan Mudhalavan Smart Interz Portal
- **Activity 2:** Choosing an IBM Granite Model from Hugging Face
- **Activity 3:** Running the Application in Google Colab
- **Activity 4:** Uploading the Project in GitHub

This workflow ensures a smooth process, starting from **enrollment in the project portal**, to **building the AI system**, and finally, to **deployment and version control**.

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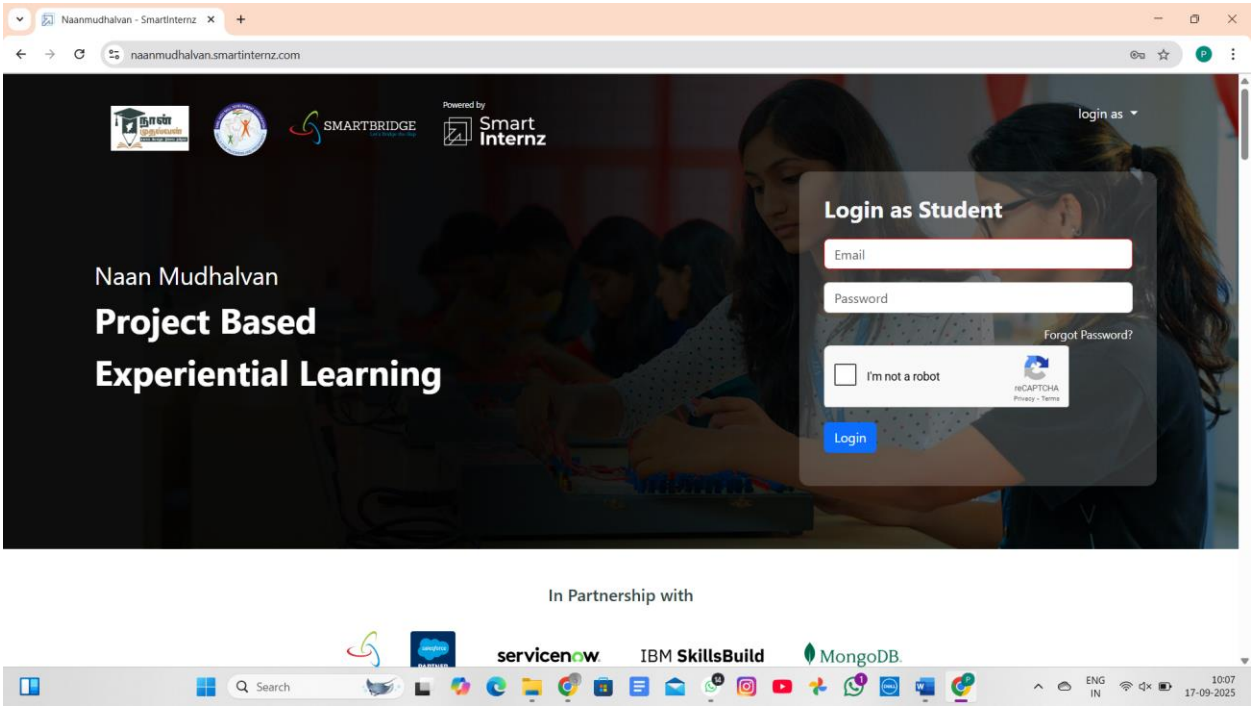
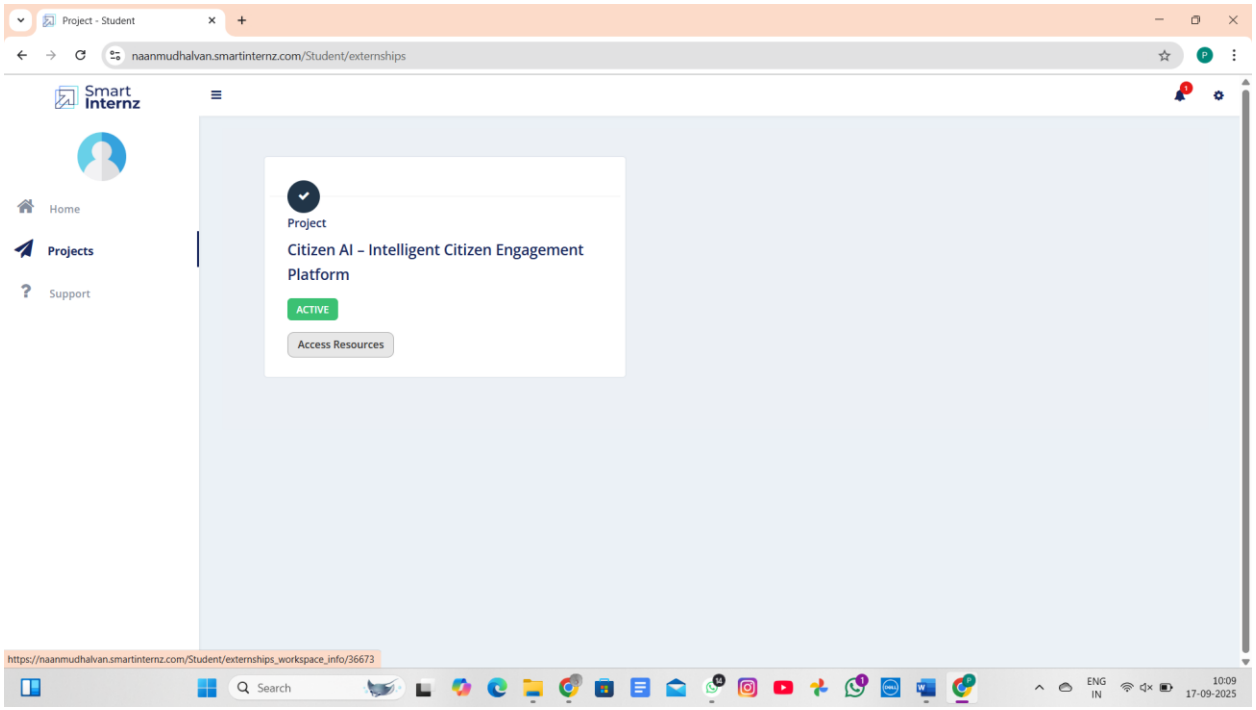
4. Activities in Detail

Activity 1: Exploring Naan Mudhalavan Smart Interz Portal

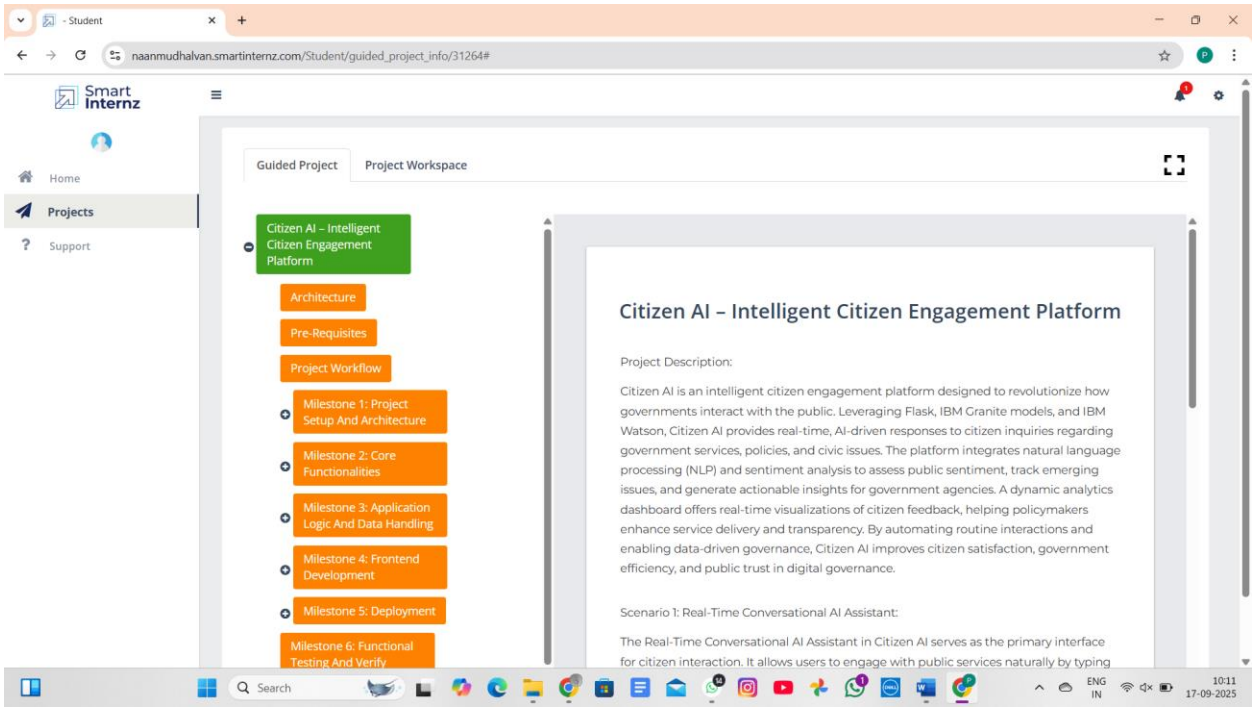
- Login to the **Naan Mudhalavan Smart Interz Portal**.



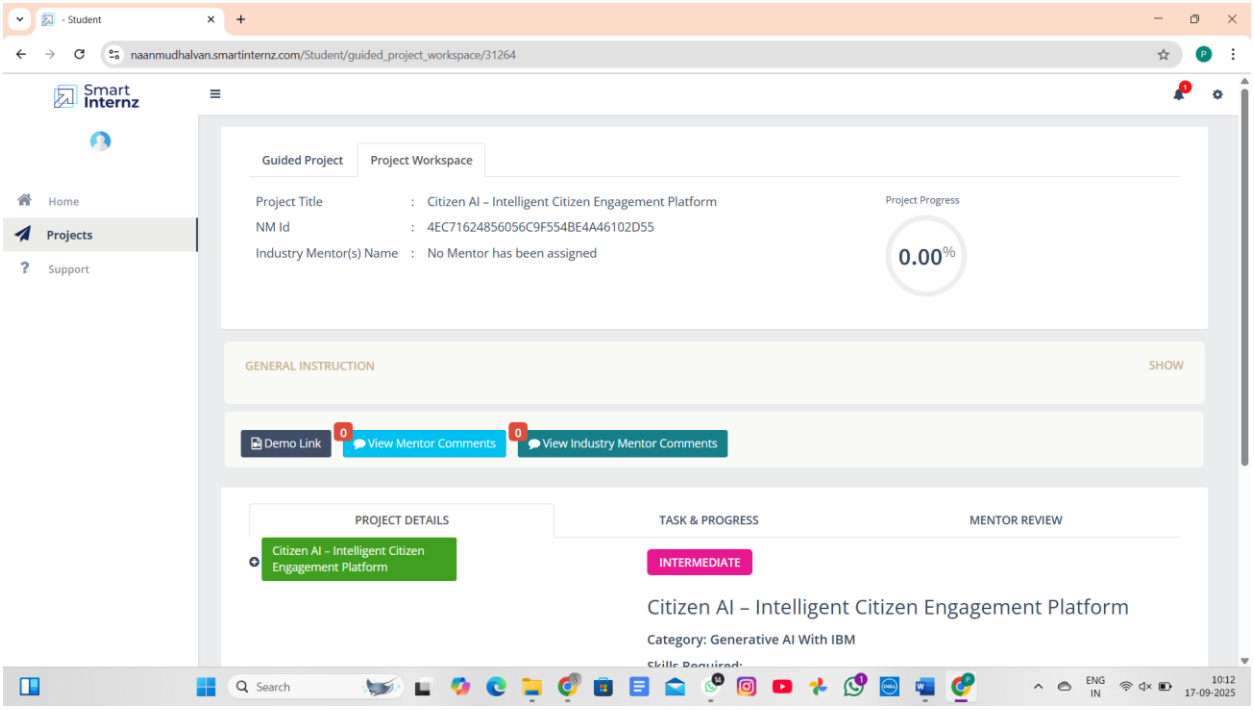
- Navigate to the **Projects Section** and choose **Citizen AI**.



- Access project resources under the **Guided Project Section**.

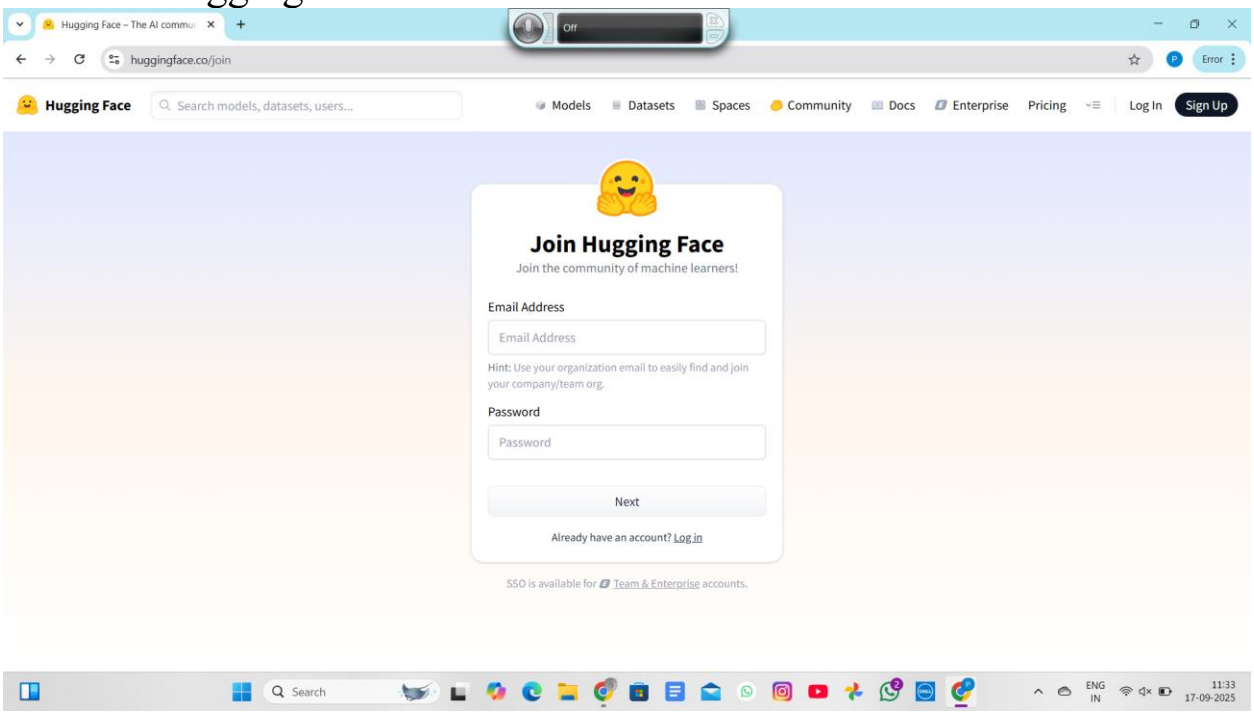


- Open the **Workspace** to check progress and upload project demo links.

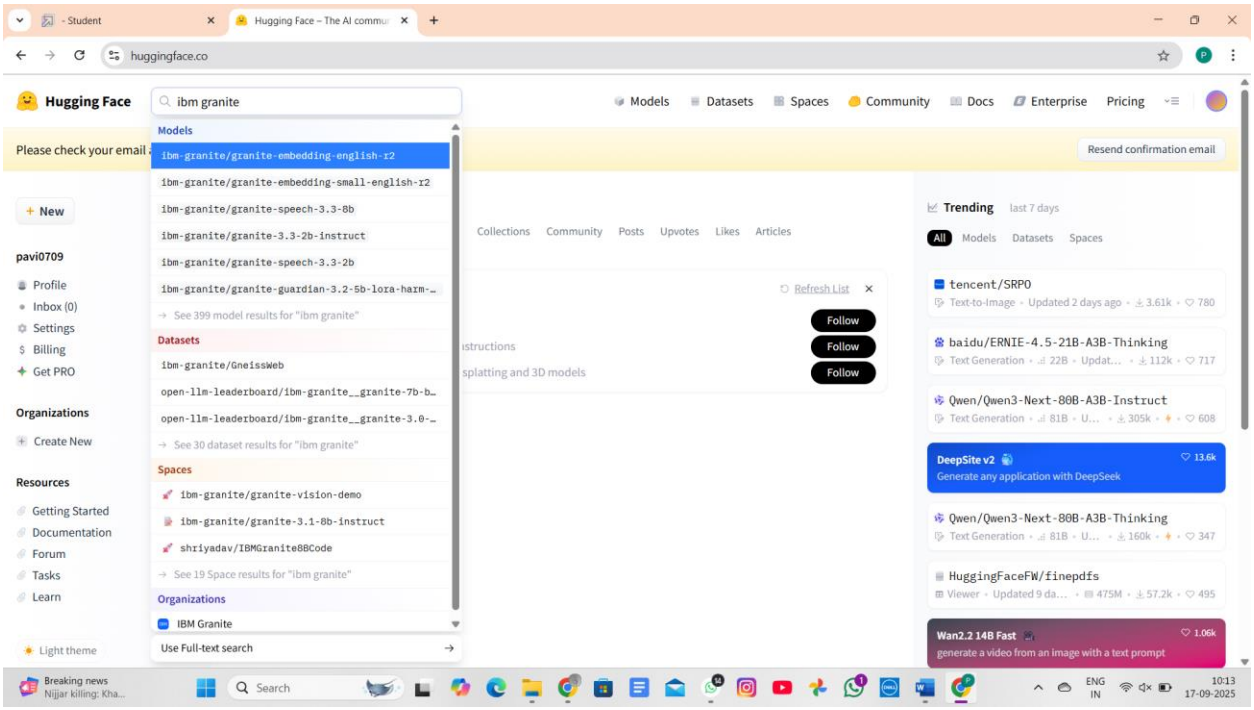


Activity 2: Choosing an IBM Granite Model

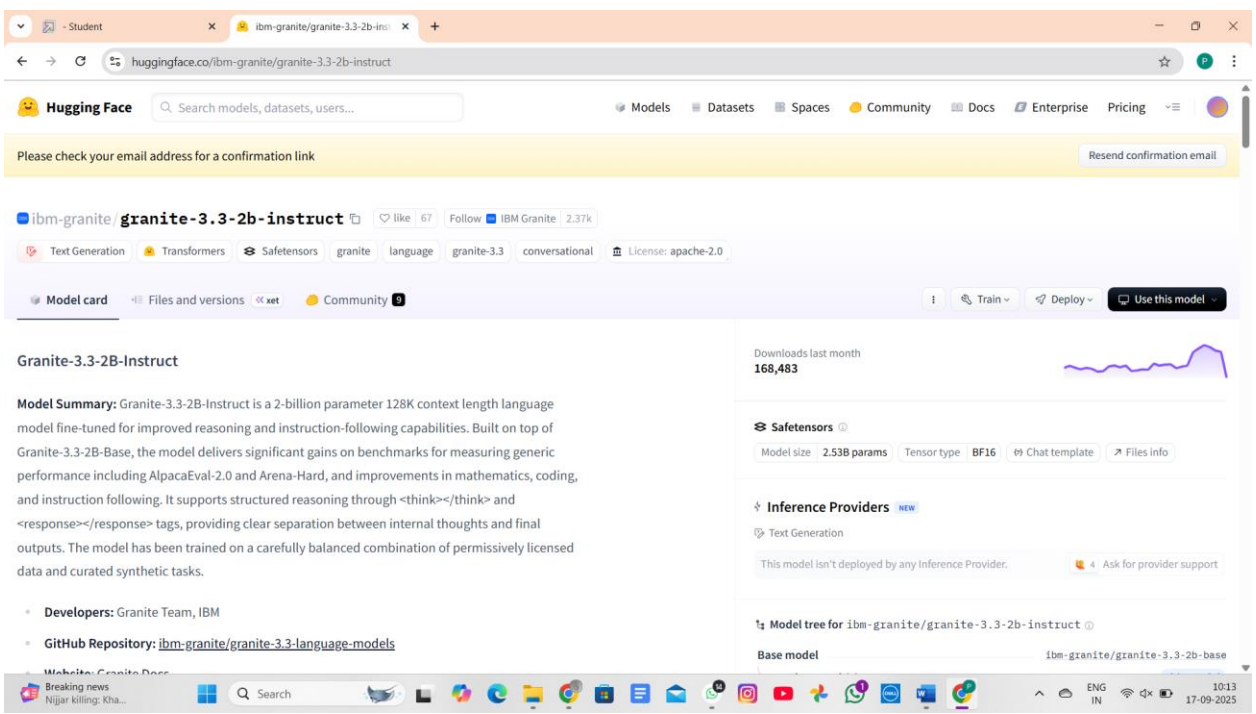
- Create a Hugging Face account.



- Search for **IBM Granite Models**.



- Select a suitable model (recommended: granite-3.2-2b-instruct).

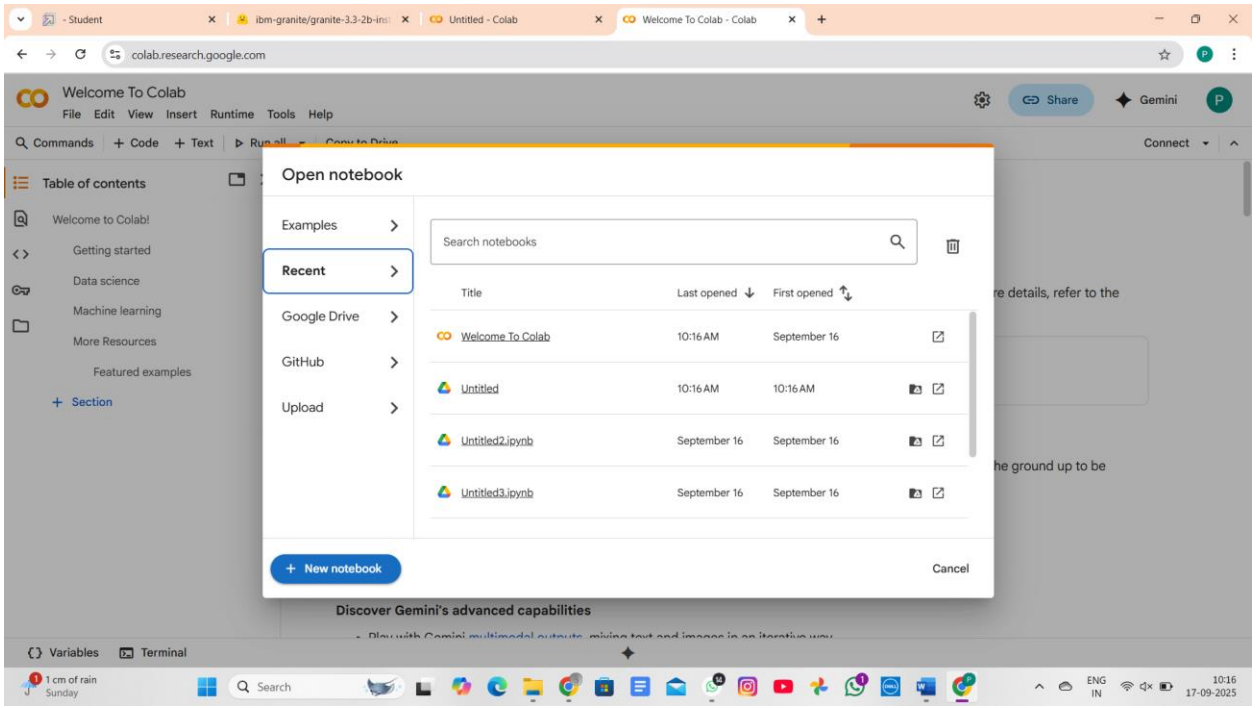


This model is **fast, lightweight, and Colab-compatible**, making it ideal for citizen engagement use cases

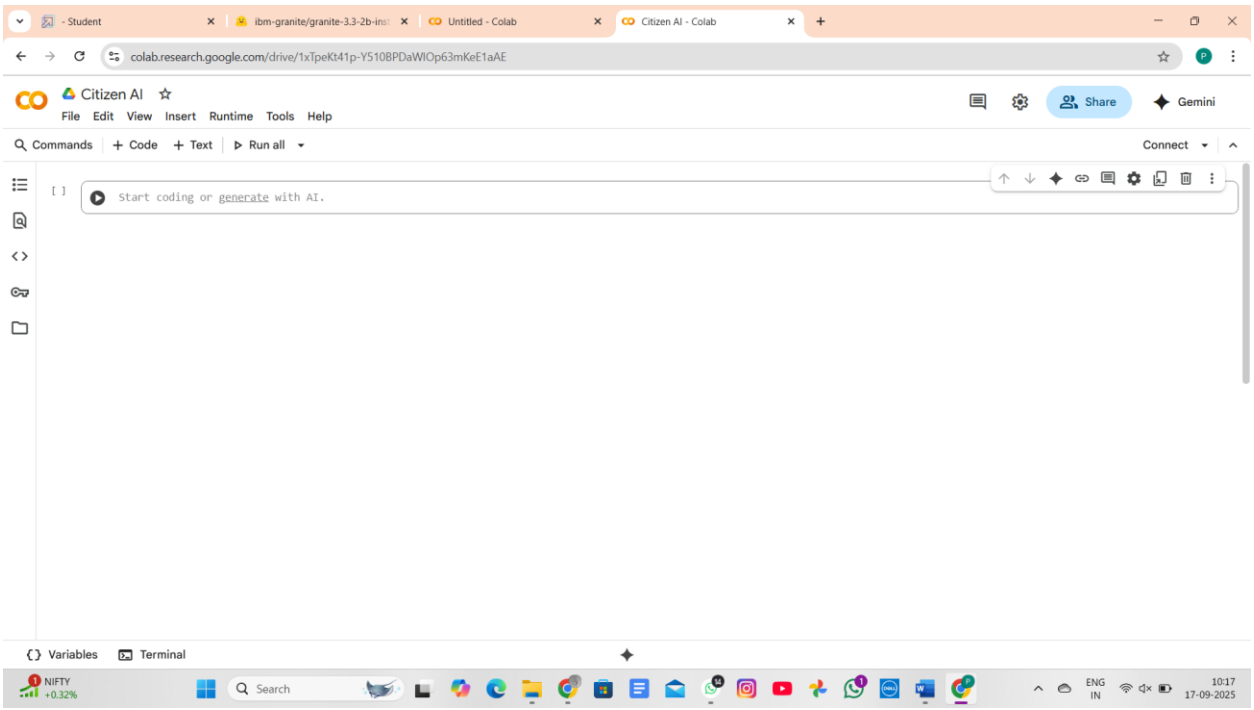
5. Implementation and Deployment

Activity 3: Running the Application in Google Colab

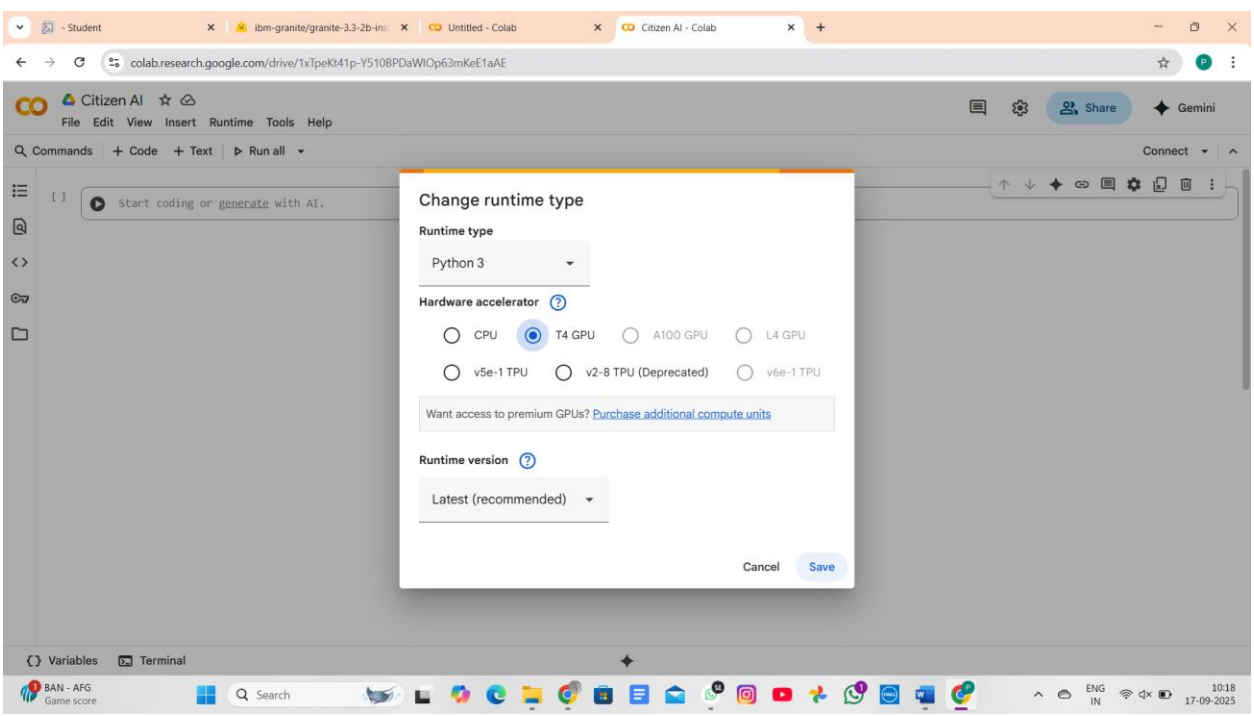
1. Open **Google Colab** and create a new notebook.



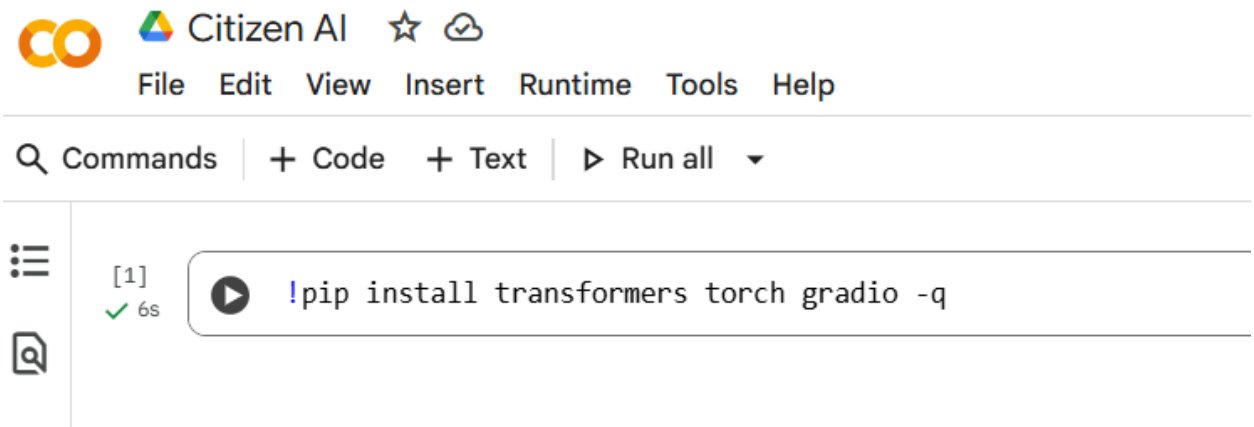
2. Rename it as **Citizen AI**.



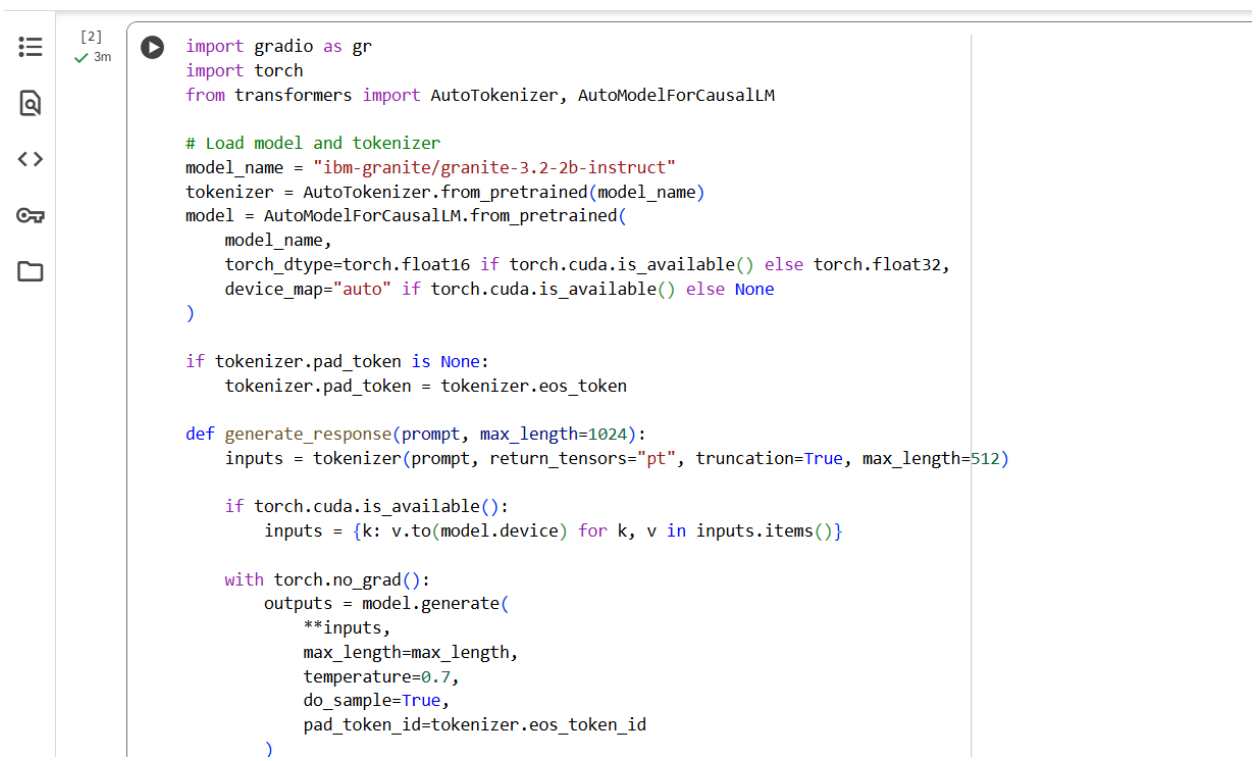
3. Change runtime to **T4 GPU** (Runtime → Change Runtime Type → GPU).



4. Install required libraries:
5. !pip install transformers torch gradio -q



6. Paste and run the project code.



```python
    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 as
    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 iss
    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)
```

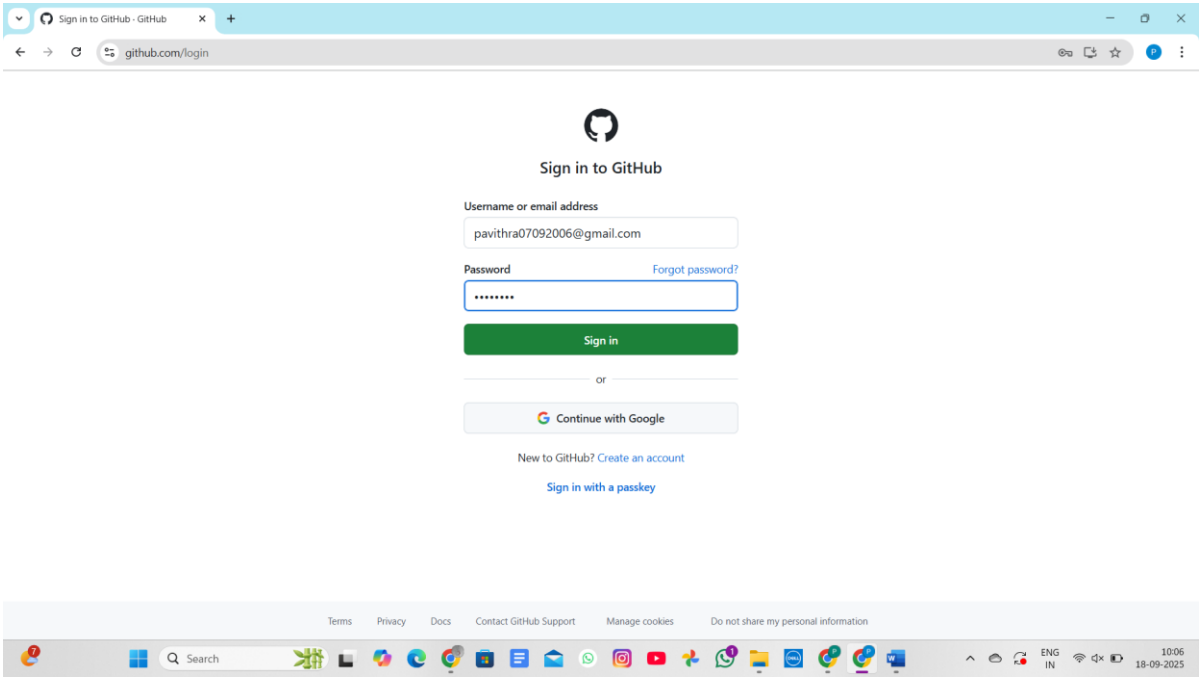
```python
                    analyze_btn = gr.Button("Analyze City")

                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)
```

7. Click on the generated **Gradio link** to access the Citizen AI chatbot.

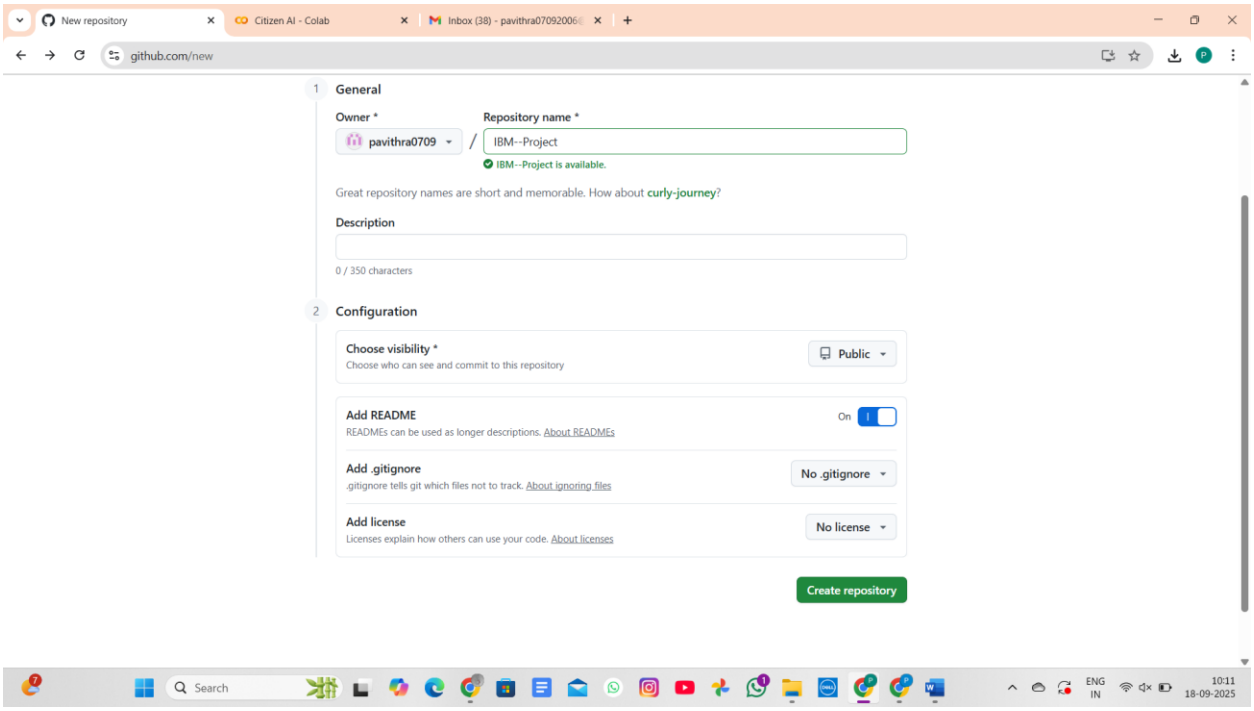
```
Colab notebook detected. To show errors in colab notebook, set debug=True in launch()
* Running on public URL: https://561392f96ac8213b97.gradio.live
```

Activity 4: Uploading to GitHub

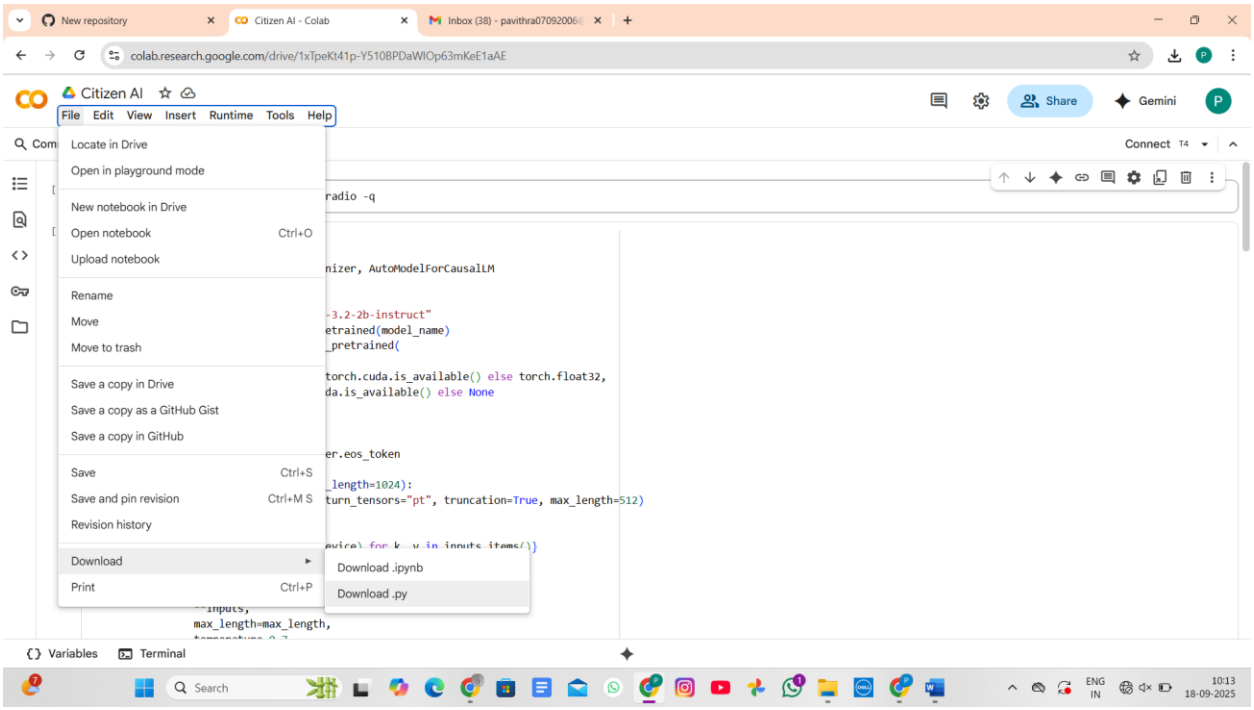
1. Create a **GitHub account** (or log in if already created).



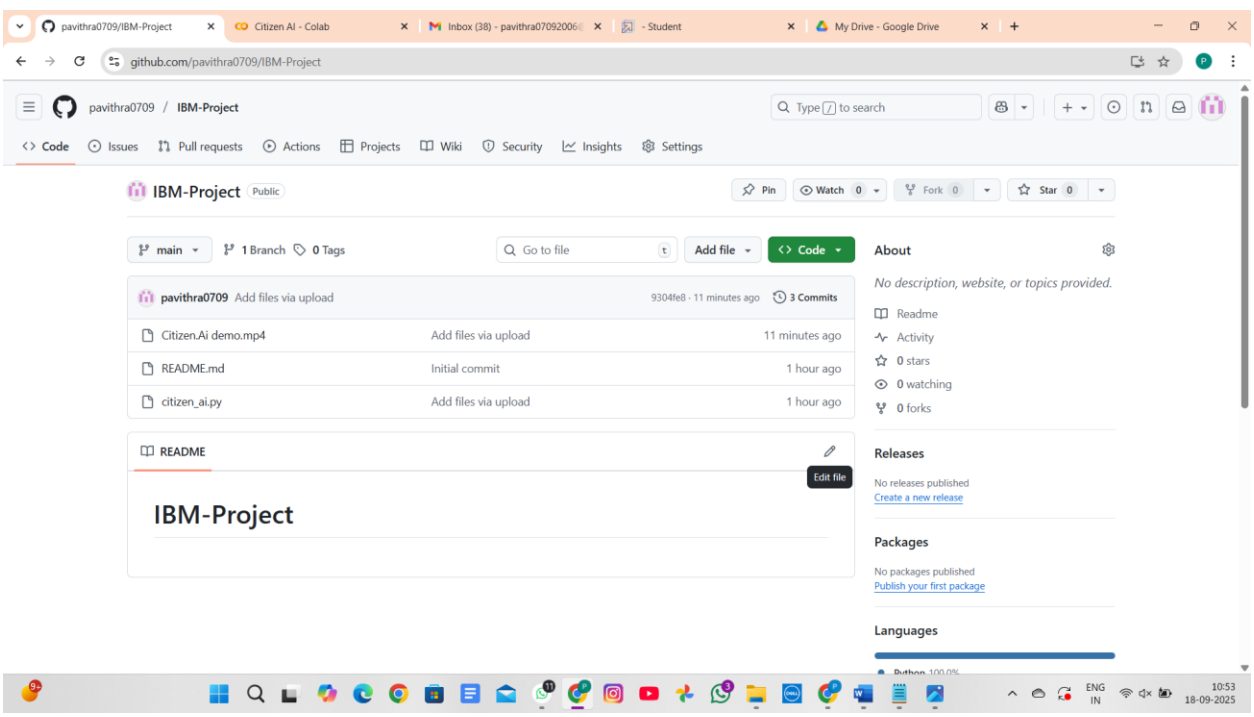
2. Create a **new repository** (e.g., IBM-Project).
3. Enable the option to **Add README**.



4. From Google Colab, download your project as .py.



5. Upload the file to your repository using the **Upload Files** option.



6. Commit changes and maintain version history.

Conclusion

Citizen AI is a **practical example of AI in governance**.
It makes public services more accessible, reduces response time, and helps governments gain insights into citizens' concerns.