# City Analysis & Citizen Services AI: Project Documentation

## Project documentation

## 1.Introduction

**Project title : City Analysis & Citizen Services AI Project Documentation**

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**Team Leader : AVINASH R**

**Team member : KAMALESH S**

**Team member : KIRUBA SAGAR S**

**Team member : KAVIRAJ K**

## 2. Project Overview

**Purpose:**

* To create an AI-powered assistant that:

* Analyzes cities for crime index and accident safety statistics.

* Provides overall safety assessments for given cities.

* Acts as a government assistant for answering queries on public services, policies, and civic issues.

* Builds a user-friendly web application with Gradio for easy interaction.

* Demonstrates how Large Language Models (LLMs) like IBM Granite can be applied in governance and safety domains.

**Key Features:**

**1. City Analysis**

* Users input a city name.

* The AI provides crime index, accident rates, and safety analysis.

**2. Citizen Interaction**

* Users input a query related to public services or policies.

* AI provides detailed, helpful, and accurate responses.

**3. Interactive Web Interface (Gradio)**

* Tab-based UI with two sections: City Analysis & Citizen Services.

* Outputs displayed in large text areas.

**Tech Stack:**

* Python (main programming language)

* Gradio (for interactive web interface)

* Hugging Face Transformers (IBM Granite model)

* PyTorch (for GPU/CPU model execution)

**3. Architecture**

**1. Model & Tokenizer Layer**

* Model: ibm-granite/granite-3.2-2b-instruct

* Library: Hugging Face Transformers (AutoModelForCausalLM, AutoTokenizer)

- Framework: PyTorch

**2. Response Generation Layer**

* Function: generate_response()

*Converts input into prompts → model → readable output.

**3. Application Logic Layer**

* Functions:

* city_analysis(city_name) → Generates analysis for crime index, accidents, safety.

* citizen_interaction(query) → Generates policy or service-related responses.

**4. User Interface Layer (Gradio)**

*Tabs: City Analysis & Citizen Services.

* Inputs: Textbox for city or query.

* Outputs: Large textbox for AI-generated responses.

**5. Deployment Layer**

* app.launch(share=True) → Launches app with a public share link.

■ High-Level Flow (Architecture in Words):

User Input (City Name / Query)

■

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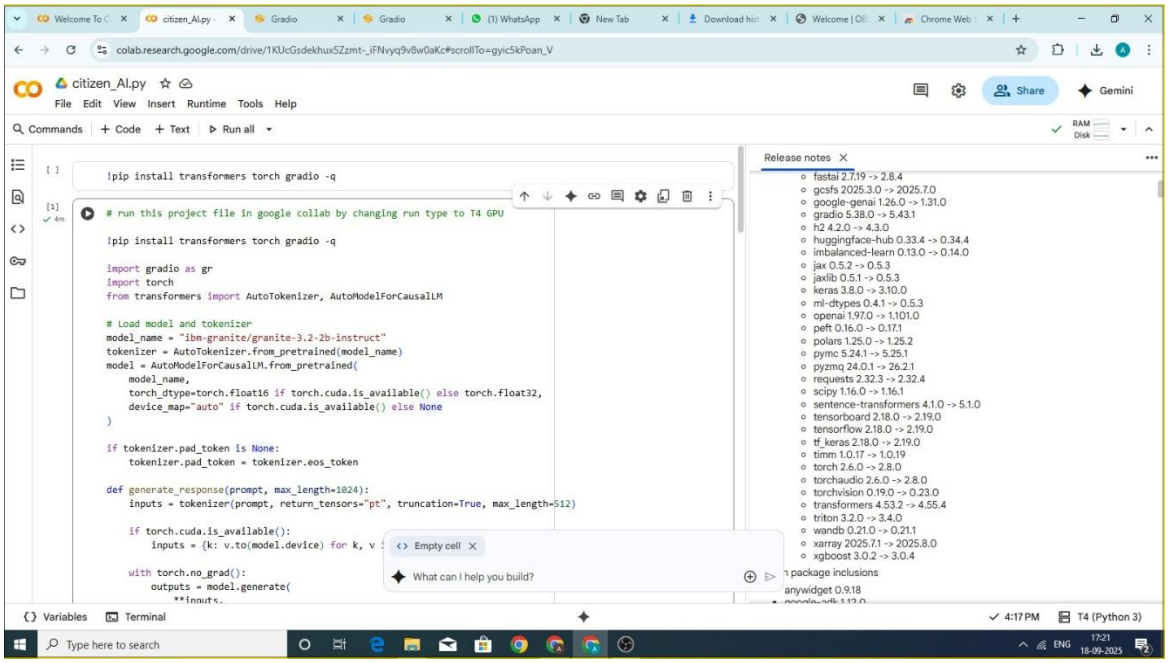
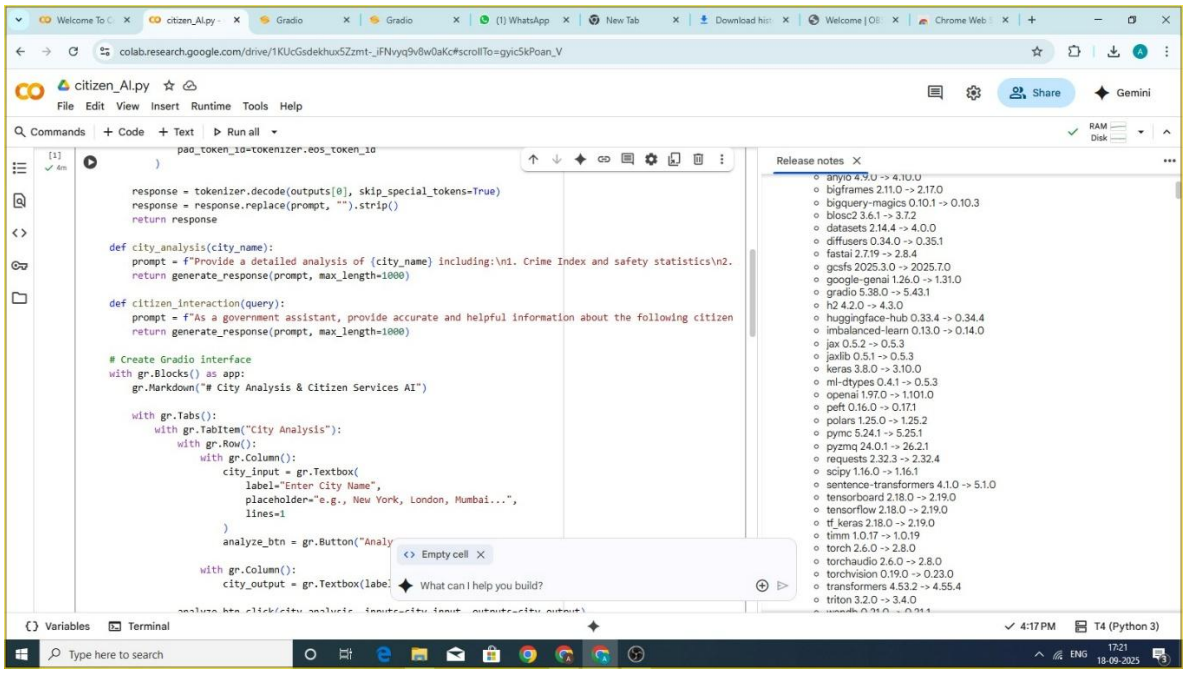
Gradio UI (Textbox + Buttons)

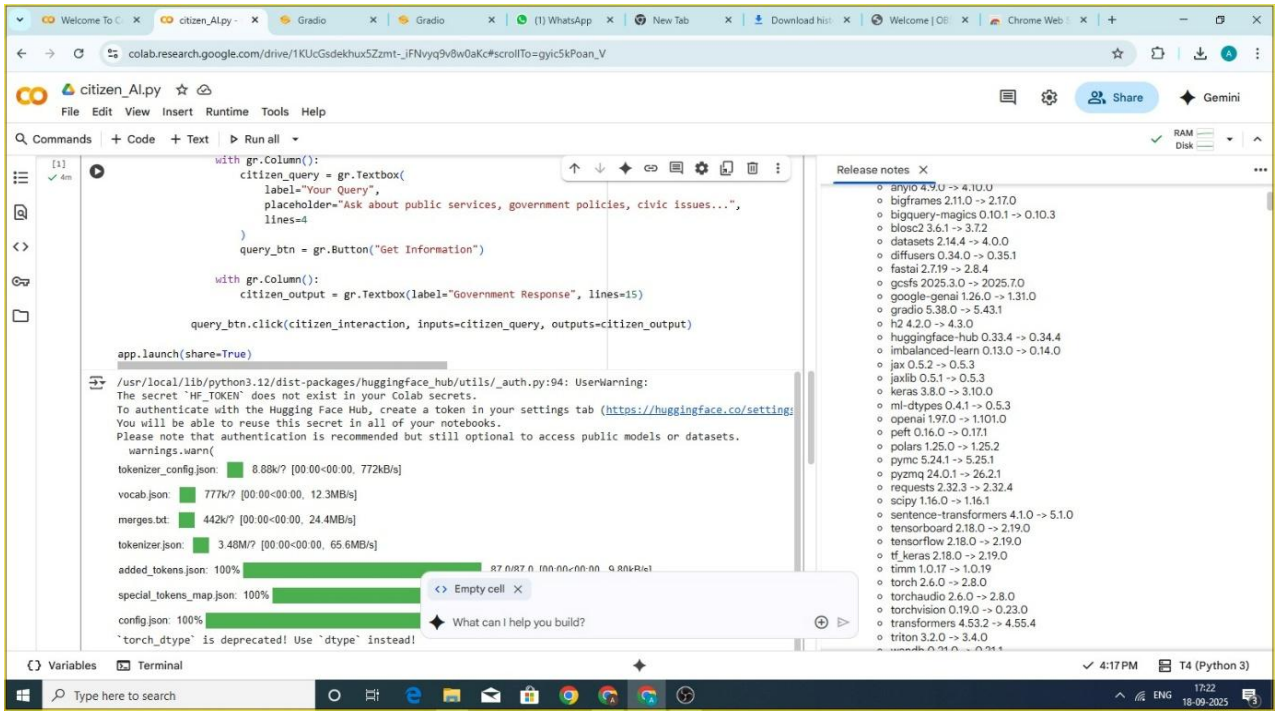
# SCREEN SHOTS

## 1.Input:



# OUTPUT:


citizen_AI.py
File Edit View Insert Runtime Tools Help
Commands + Code + Text Run all
Share
Gemini
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)
/usr/local/lib/python3.12/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your settings tab (https://huggingface.co/settings
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to access public models or datasets.
warnings.warn(
tokenizer_config.json: 8.88k/? [00:00<00:00, 772kB/s]
vocab.json: 777k/? [00:00<00:00, 12.3MB/s]
merges.txt: 442k/? [00:00<00:00, 24.4MB/s]
tokenizer.json: 3.48M/? [00:00<00:00, 65.6MB/s]
added_tokens.json: 100%
special_tokens_map.json: 100%
config.json: 100%
`torch_dtype` is deprecated! Use `dtype` instead!
Empty cell
What can I help you build?
Release notes
bigframes 2.11.0 -> 2.17.0
bigquery-magics 0.10.1 -> 0.10.3
blosc2 3.6.1 -> 3.7.2
datasets 2.14.4 -> 4.0.0
diffusers 0.34.0 -> 0.35.1
fastai 2.7.19 -> 2.8.4
gcsfs 2025.3.0 -> 2025.7.0
google-genai 1.26.0 -> 1.31.0
gradio 5.38.0 -> 5.43.1
h2 4.2.0 -> 4.3.0
huggingface-hub 0.33.4 -> 0.34.4
imbalanced-learn 0.13.0 -> 0.14.0
jax 0.5.2 -> 0.5.3
jaxlib 0.5.1 -> 0.5.3
keras 3.8.0 -> 3.10.0
ml-dtypes 0.4.1 -> 0.5.3
openai 1.97.0 -> 1.101.0
peft 0.16.0 -> 0.17.1
polars 1.25.0 -> 1.25.2
pymc 5.24.1 -> 5.25.1
pyzmq 24.0.1 -> 26.2.1
requests 2.32.3 -> 2.32.4
scipy 1.16.0 -> 1.16.1
sentence-transformers 4.1.0 -> 5.1.0
tensorboard 2.18.0 -> 2.19.0
tensorflow 2.18.0 -> 2.19.0
tf_keras 2.18.0 -> 2.19.0
timm 1.0.17 -> 1.0.19
torch 2.6.0 -> 2.8.0
torchaudio 2.6.0 -> 2.8.0
torchvision 0.19.0 -> 0.23.0
transformers 4.53.2 -> 4.55.4
triton 3.2.0 -> 3.4.0
Variables
Terminal
4:17 PM
T4 (Python 3)
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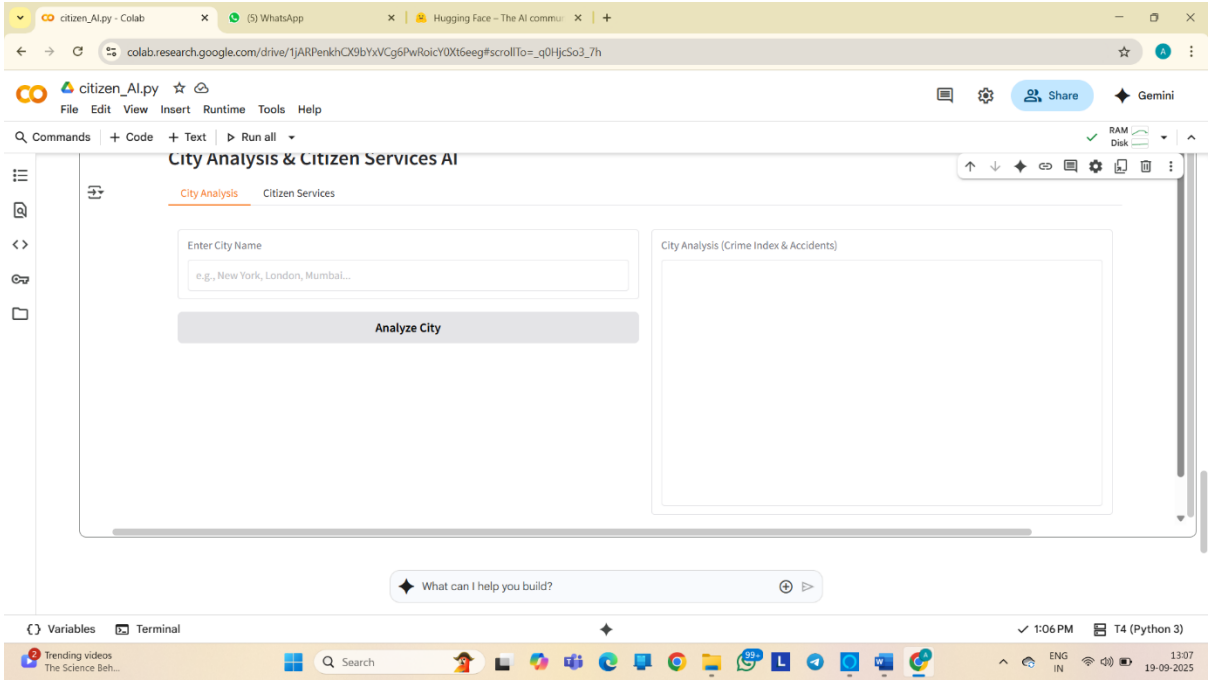
citizen_AI.py - Colab
(5) WhatsApp
Hugging Face – The AI commu
colab.research.google.com/drive/1jARPenkhCX9bYxVCg6PwRoicY0Xt6eeg#scrollTo=_q0HjcSo3_7h
citizen_AI.py
File Edit View Insert Runtime Tools Help
Share
Gemini
Commands
+ Code
+ Text
Run all
RAM
Disk
City Analysis & Citizen Services AI
City Analysis
Citizen Services
Enter City Name
e.g., New York, London, Mumbai...
Analyze City
City Analysis (Crime Index & Accidents)
What can I help you build?
Variables
Terminal
1:06 PM
T4 (Python 3)
Trending videos
The Science Beh...
Search
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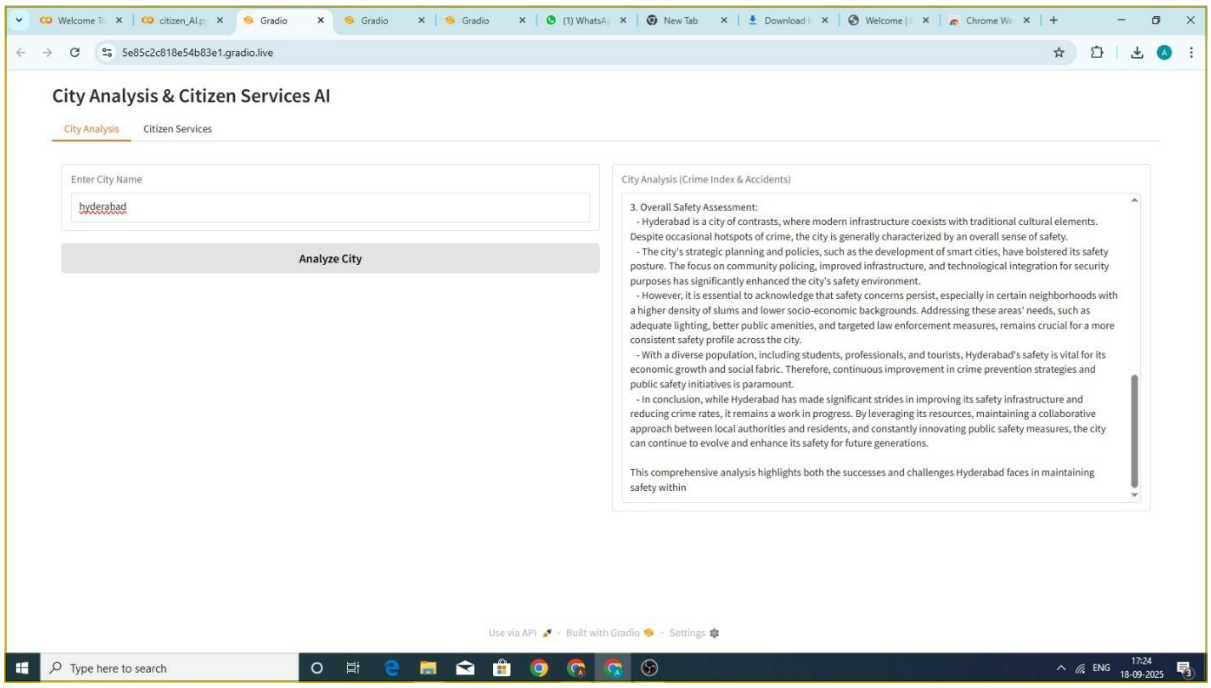
19-09-2025


5e85c2c818e54b83e1.gradio.live
City Analysis & Citizen Services AI
City Analysis
Citizen Services
Enter City Name
hyderabad
Analyze City
City Analysis (Crime Index & Accidents)
3. Overall Safety Assessment:
- Hyderabad is a city of contrasts, where modern infrastructure coexists with traditional cultural elements. Despite occasional hotspots of crime, the city is generally characterized by an overall sense of safety.
- The city's strategic planning and policies, such as the development of smart cities, have bolstered its safety posture. The focus on community policing, improved infrastructure, and technological integration for security purposes has significantly enhanced the city's safety environment.
- However, it is essential to acknowledge that safety concerns persist, especially in certain neighborhoods with a higher density of slums and lower socio-economic backgrounds. Addressing these areas' needs, such as adequate lighting, better public amenities, and targeted law enforcement measures, remains crucial for a more consistent safety profile across the city.
- With a diverse population, including students, professionals, and tourists, Hyderabad's safety is vital for its economic growth and social fabric. Therefore, continuous improvement in crime prevention strategies and public safety initiatives is paramount.
- In conclusion, while Hyderabad has made significant strides in improving its safety infrastructure and reducing crime rates, it remains a work in progress. By leveraging its resources, maintaining a collaborative approach between local authorities and residents, and constantly innovating public safety measures, the city can continue to evolve and enhance its safety for future generations.
This comprehensive analysis highlights both the successes and challenges Hyderabad faces in maintaining safety within
Use via API · Built with Gradio · Settings
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ENG
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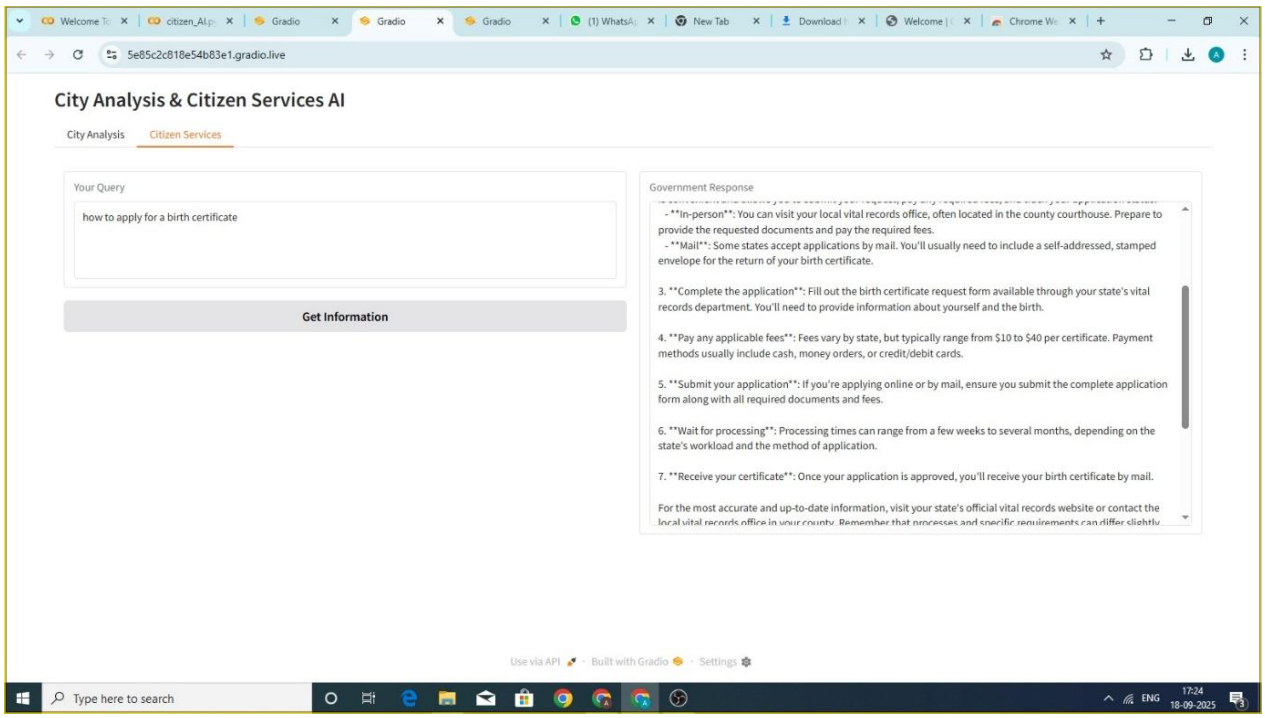
18-09-2025


5e85c2c818e54b83e1.gradio.live
City Analysis & Citizen Services AI
City Analysis
Citizen Services
Your Query
how to apply for a birth certificate
Get Information
Government Response
- **In-person**: You can visit your local vital records office, often located in the county courthouse. Prepare to provide the requested documents and pay the required fees.
- **Mail**: Some states accept applications by mail. You'll usually need to include a self-addressed, stamped envelope for the return of your birth certificate.
3. **Complete the application**: Fill out the birth certificate request form available through your state's vital records department. You'll need to provide information about yourself and the birth.
4. **Pay any applicable fees**: Fees vary by state, but typically range from $10 to $40 per certificate. Payment methods usually include cash, money orders, or credit/debit cards.
5. **Submit your application**: If you're applying online or by mail, ensure you submit the complete application form along with all required documents and fees.
6. **Wait for processing**: Processing times can range from a few weeks to several months, depending on the state's workload and the method of application.
7. **Receive your certificate**: Once your application is approved, you'll receive your birth certificate by mail.
For the most accurate and up-to-date information, visit your state's official vital records website or contact the
Use via API · Built with Gradio · Settings
Type here to search
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