AI Chat Bot for YouTube Video QA
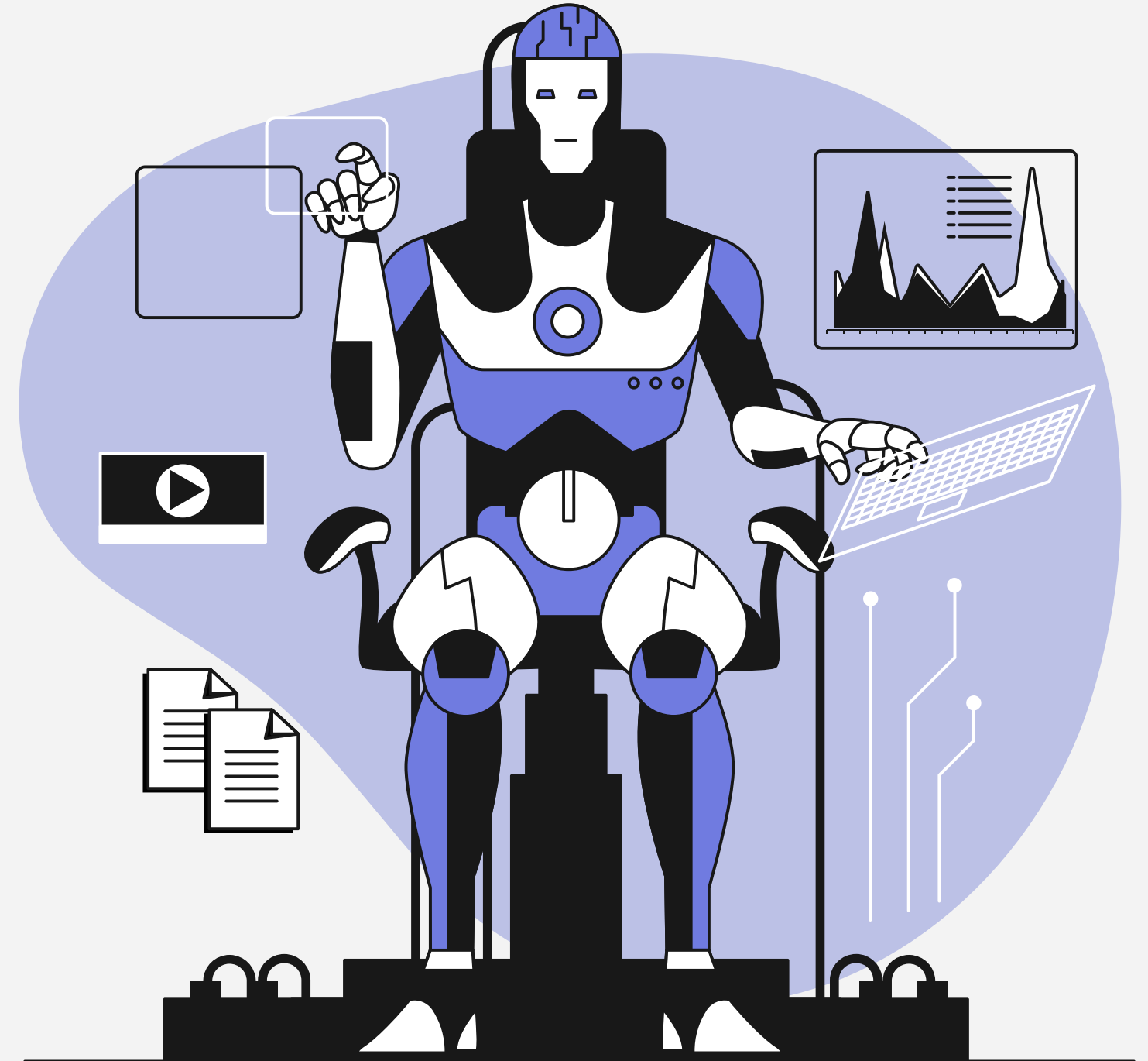
الأكاديمية السعودية الرقمية
SAUDI DIGITAL ACADEMY

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MAIN OBJECTIVE

PROBLEMS

🌐 **Language barriers (especially English)**
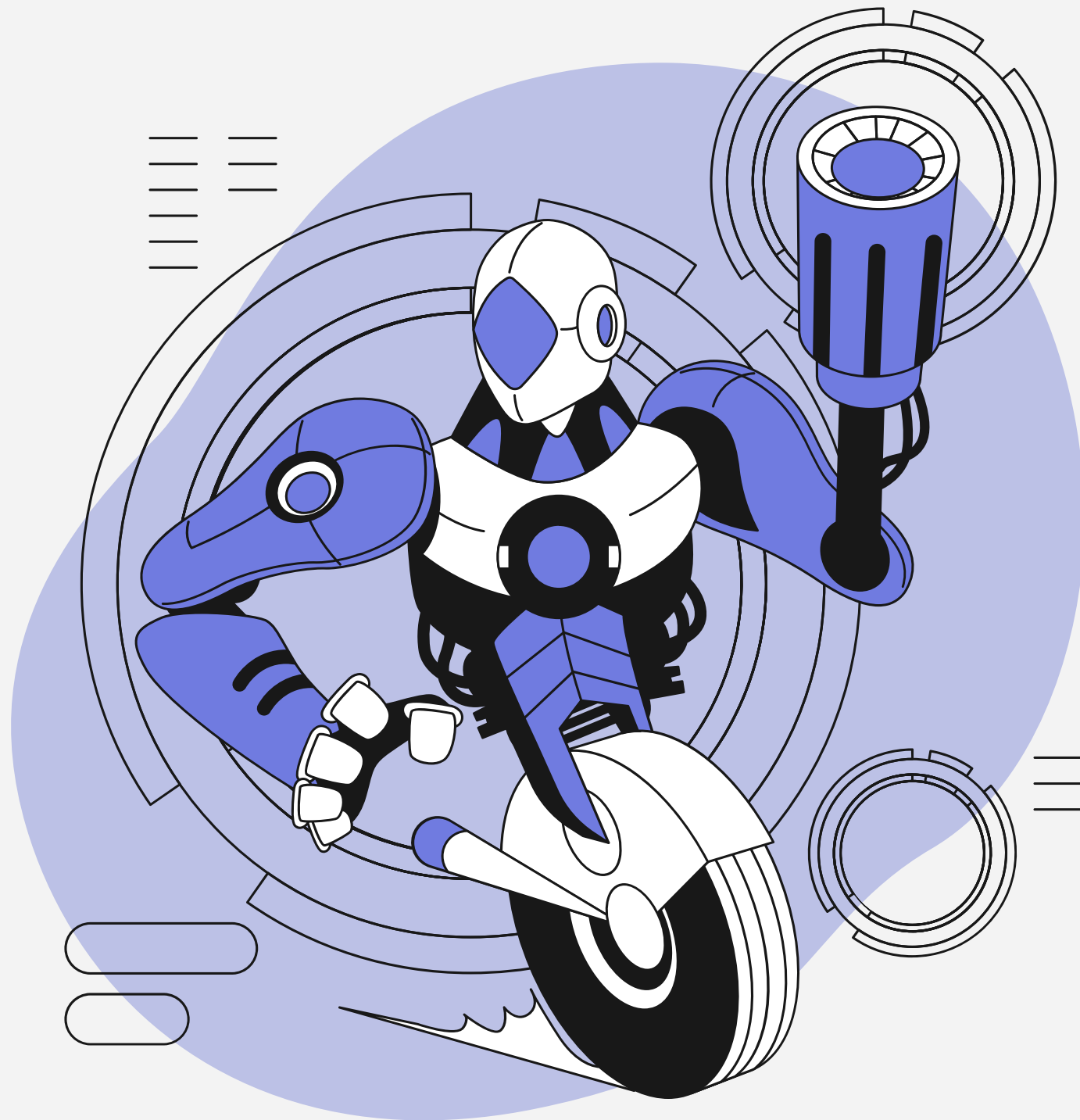
⏱️ **Lengthy educational videos**

🔍 **Difficult searching within videos**

GOALS

✓ **Save learners' time and effort**

✓ **Makes content easier to understand in their own language**

✓ **Supports fast access to important information**

📄 Project Overview

This system helps users quickly understand educational YouTube videos by solving common learning problems.

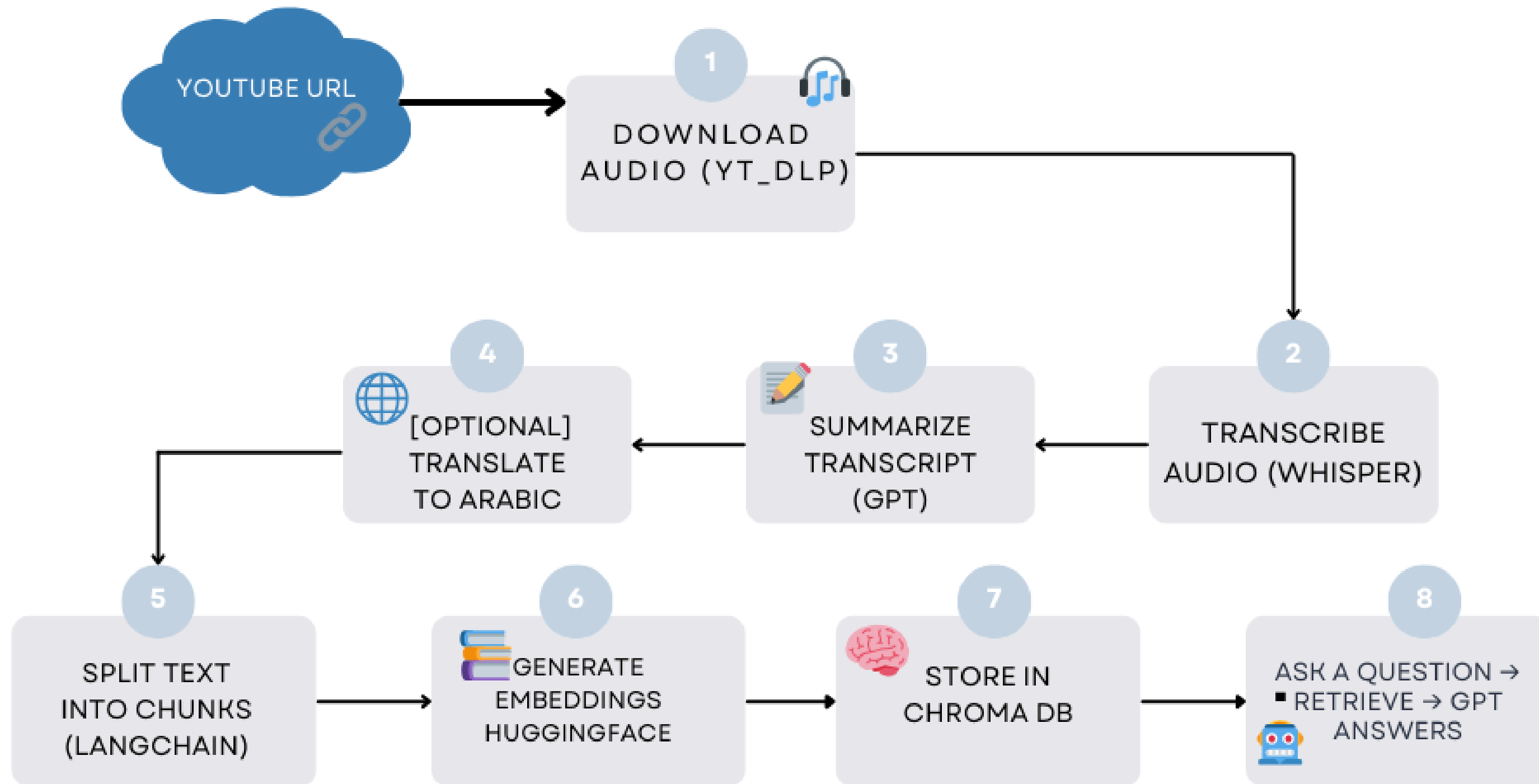🔤 **Transcribing the spoken content automatically**

📝 **Summarizing the video into clear bullet points**
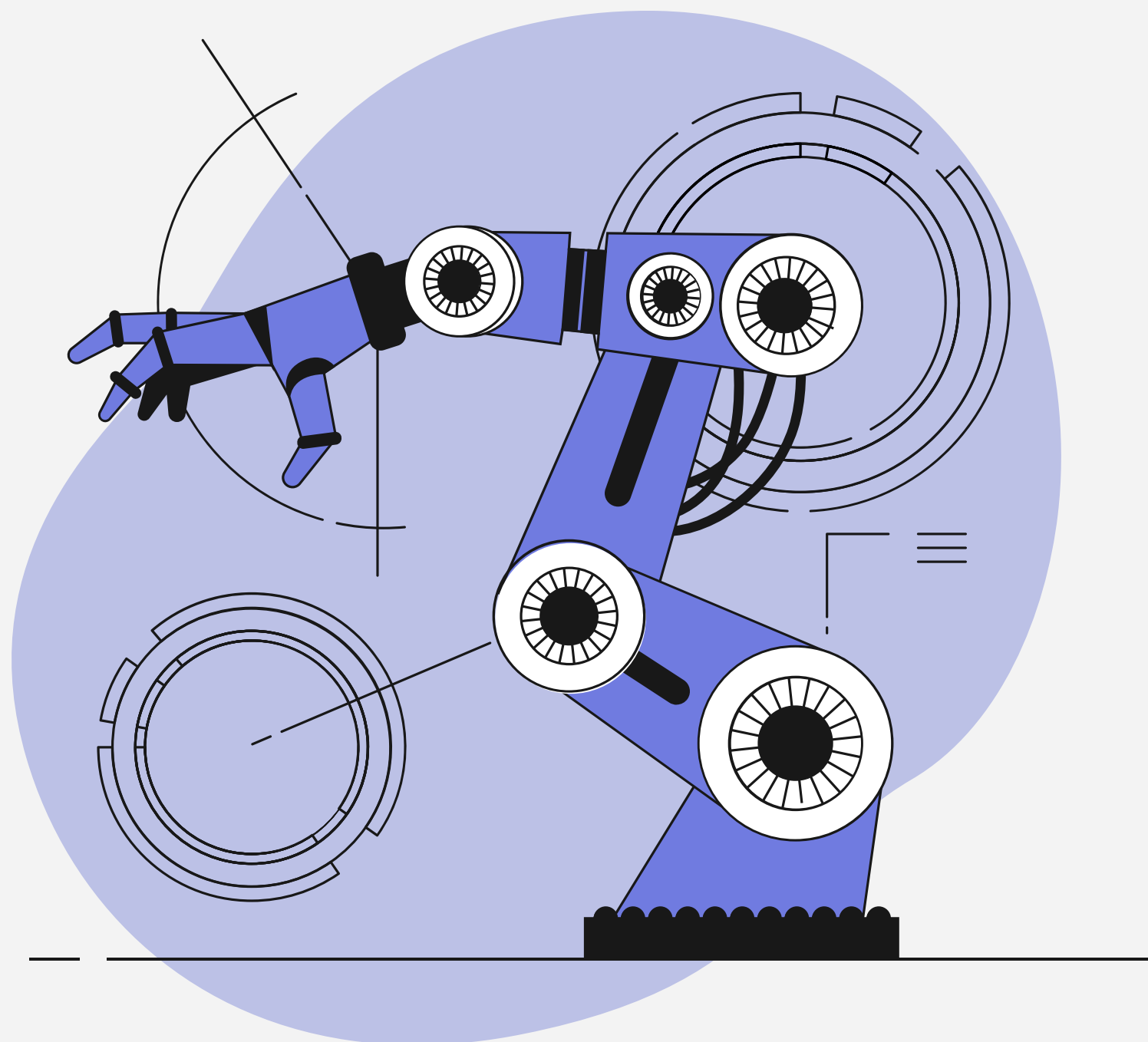
🌍 **Translating the summary into Arabic**

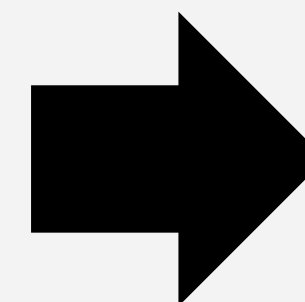💬 **Letting users ask questions and get answers using AI in both Arabic and English**
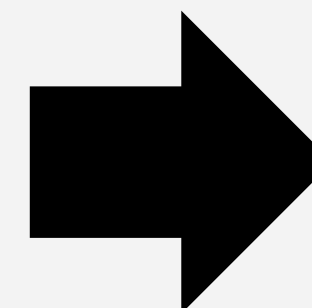
IMPLEMENATION

Challenges

The bot didn't forget the old video → **I added a reset to clear the old video before starting a new one.**
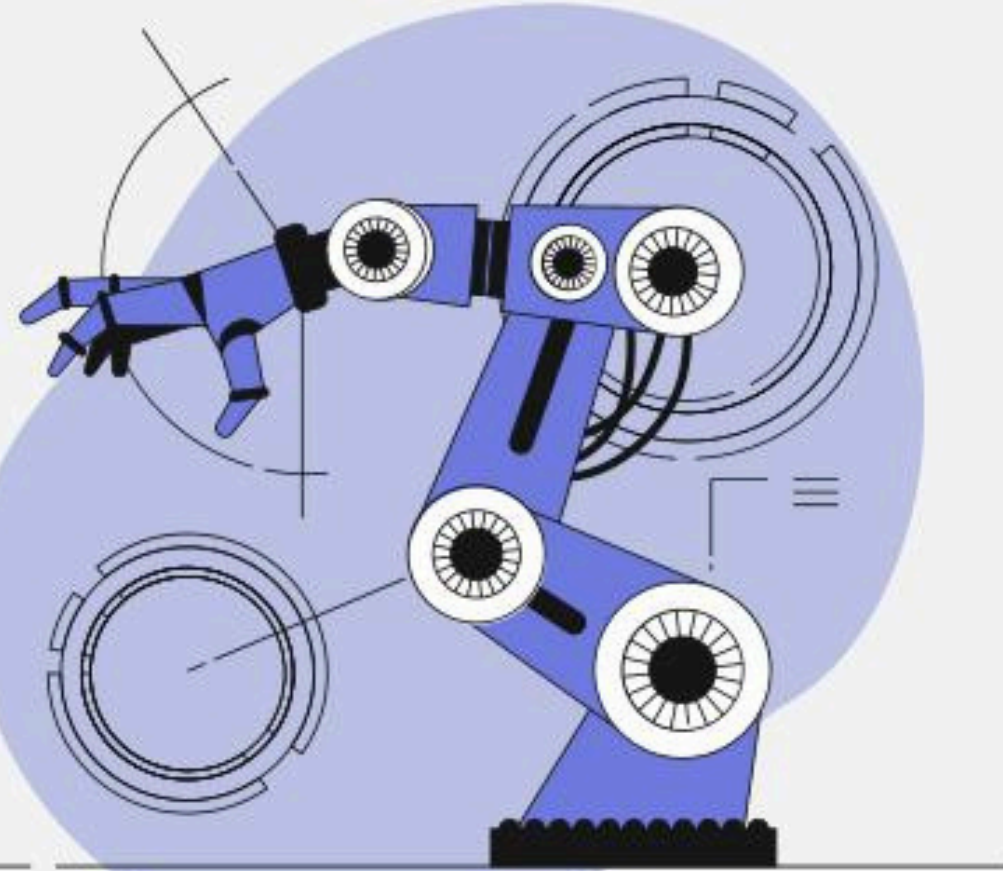
It was slow to transcribe the video → **I used Faster-Whisper to make transcription faster and reduce sound quality**

Model Evaluation using LangSmith

		Name	Input	Output	Error	Start Time	Latency	Dataset	Annotation Queue	Tokens
☐	✓	ChatOpenAI	human: You are an ex...	ai: - Mike enjoyed...		5/1/2025, 3:24:13 PM	🕐 0.93s	▢ 🗄	▢ ✎	293
☐	✓	ChatOpenAI	human: Please summ...	ai: - Dialogue bet...		5/1/2025, 3:24:11 PM	🕐 1.19s	▢ 🗄	▢ ✎	1,000
☐	✓	ChatOpenAI	human: You are an ex...	ai: - New York is ...		5/1/2025, 3:24:00 PM	🕐 0.96s	▢ 🗄	▢ ✎	282
☐	✓	ChatOpenAI	human: Please summ...	ai: - Dialogue bet...		5/1/2025, 3:23:58 PM	🕐 1.49s	▢ 🗄	▢ ✎	999

DEMO

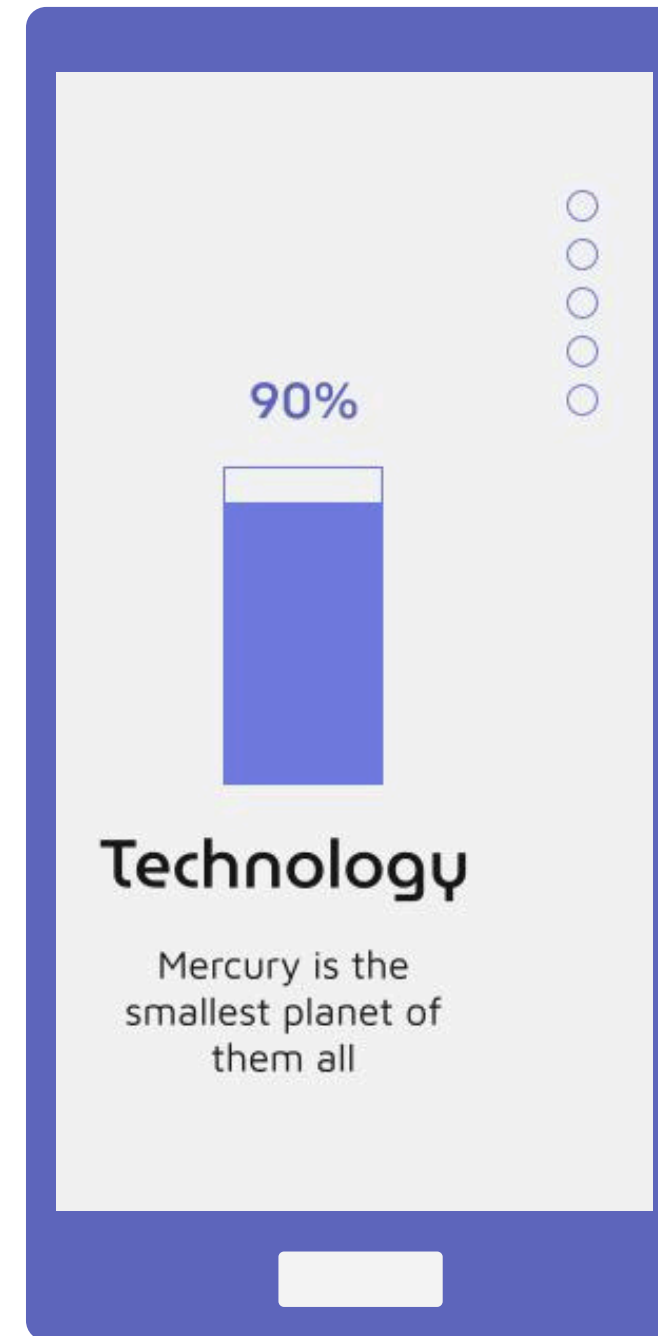https://www.youtube.com/watch?v=avO8alp-JG8

- What are the basic data types in Python?
- How do you define a function in Python?
- ما هو الموضوع الرئيسي الذي يتناوله الفيديو؟

Future Work

- Add video classification

- Support more languages

- Faster processing

Thank You
&
Any Questions?