

# Cosmic Chatbot: Exploring the Universe with AI



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# Why Chatbots Matter

- Chatbots are evolving: from support agents to knowledge companions
- Cosmic use case: spark curiosity, explain science
- Future: education, space outreach, personalized discovery



# Why Transformers Dominate

- Transformers understand full context
- They power ChatGPT, Claude, Gemini
- Fast, accurate, and scalable



# Why Quality, Diversity & Control Matter



**Quality:** Makes answers sound intelligent

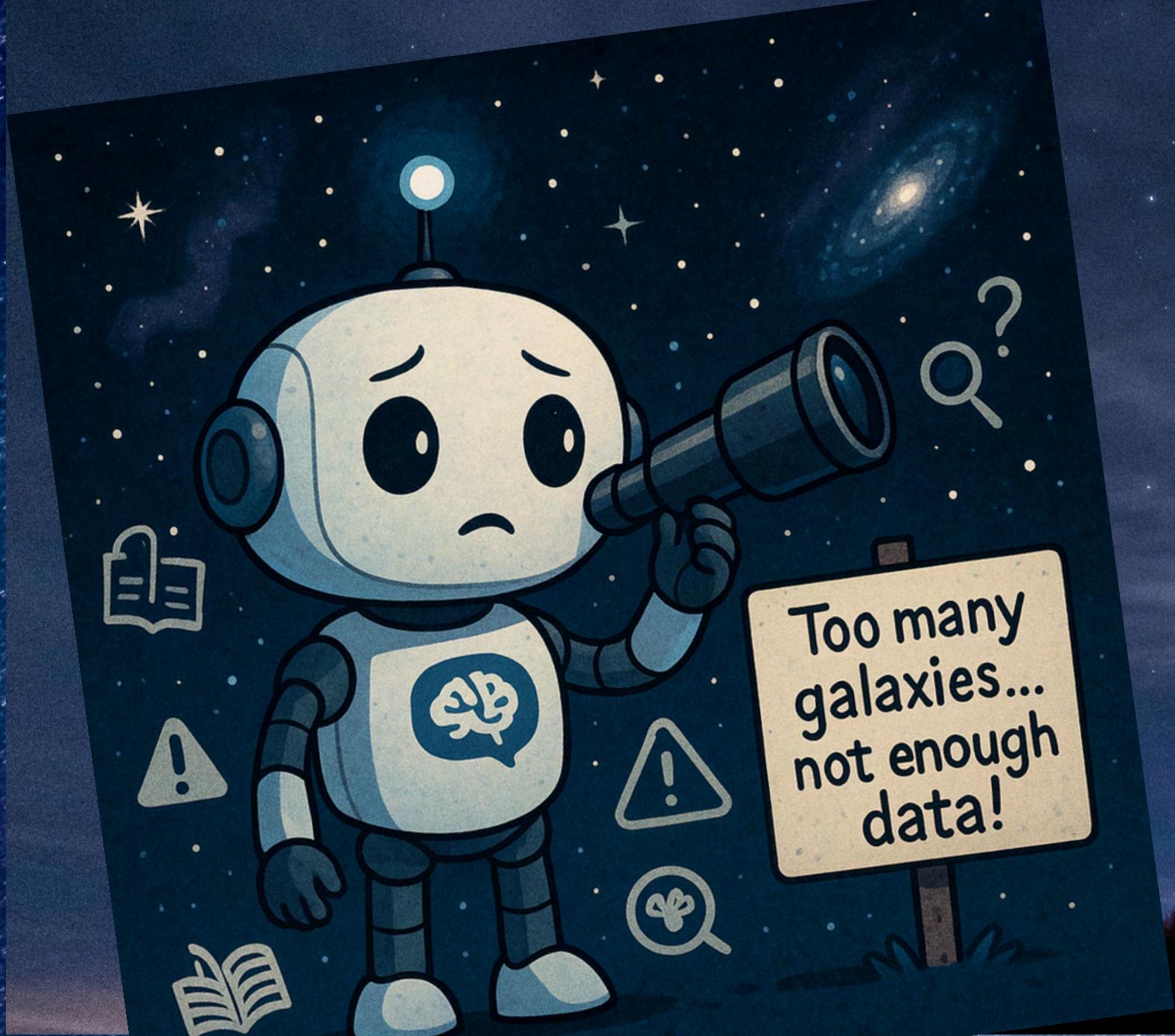


**Diversity:** Avoids boring repetition



**Control:** Keeps responses factual, safe

# Challenges & Ethics of Cosmic Chatbots



- Huge computing power needed
- Bots can 'hallucinate' false facts
- Ethical concerns: accuracy, transparency, bias

# Architecture & Workflow



1- User Questions

2-Topic Extraction

3-Context Retrieval

4-Prompt Construction

5-LLM Generation

6-Response Display

7-Tech Stack

# Our Chatbot



## Ask the Cosmos

Type a space-related question (e.g., *When is the next full moon?* or *What is Jupiter?*)

Ask your question about the universe:



## NASA Astronomy Picture of the Day



Perseverance Selfie with Ingenuity

## Live Q&A

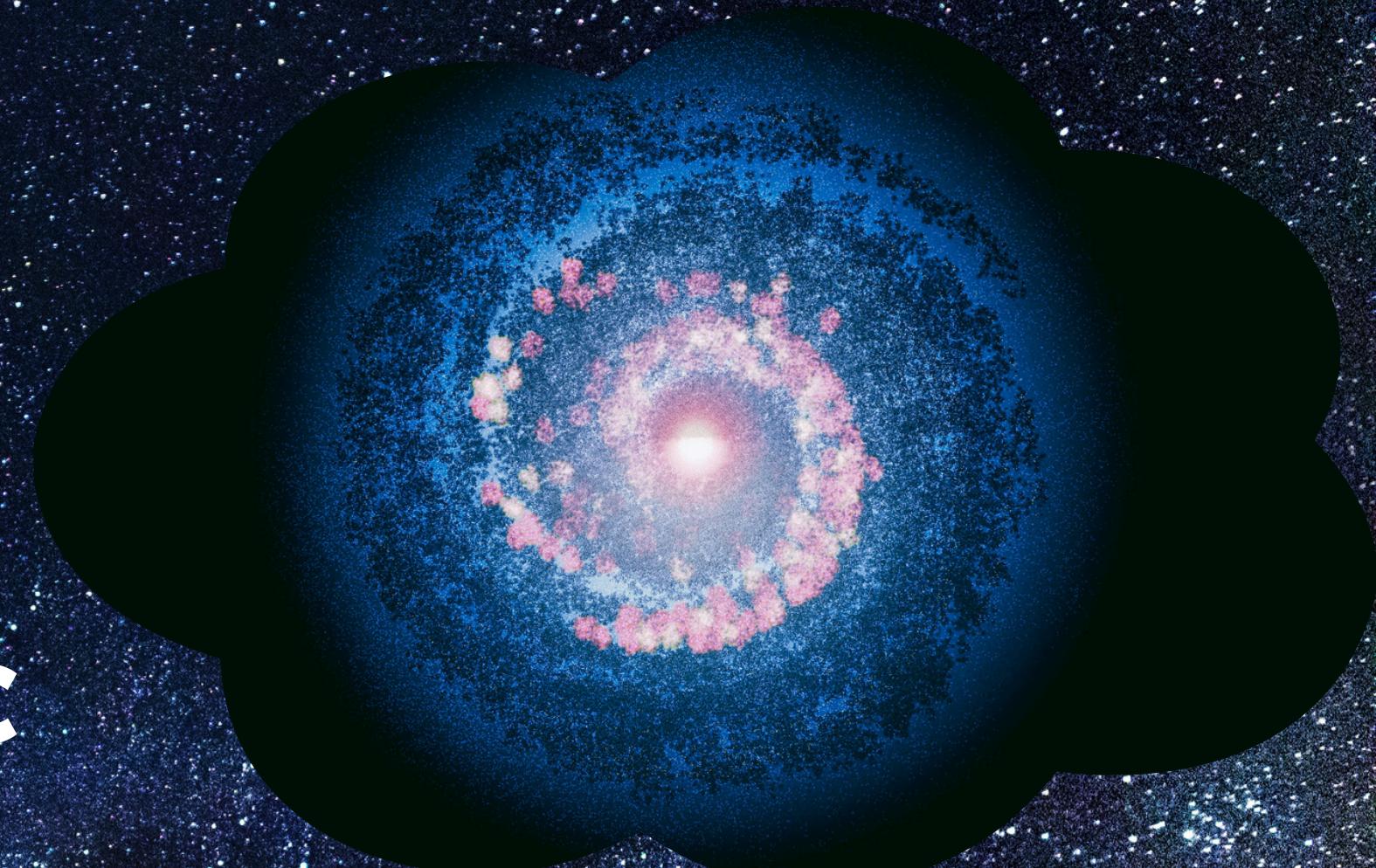
## Prompt for the Audience

### Ask the Cosmos Anything

- What happens inside a black hole?
- Are we made of stardust?
- Tell me about the universe?
- What is a meteor?
- What are the solar planets?

# summary:

Chatbots are transforming the way we think, learn, and dream – guiding our journey from the classroom to the cosmos





Thank you  
very much!