🤖Generative AI (GenAI) Interview Guide

👈What is Generative AI?

Generative AI refers to artificial intelligence systems that can **create new content** such as **text, images, code, music, videos**, etc., based on patterns learned from data.

👉Simple Explanation:

- Traditional AI: Classifies or predicts existing things
- **Generative AI**: Creates something new that didn't exist before

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❤️Real-Life Examples of GenAI

Platform	What It Does
ChatGPT	Generates human-like conversations
DALL·E / Midjourney	Generates images from text prompts
GitHub Copilot	Generates code suggestions in real time
Jasper.ai	Generates blog posts and marketing content
RunwayML	Generates videos from text

🧠How GenAI Works (Simple Steps)

1. **Trained on large datasets** (text, images, etc.)
2. Learns patterns, structures, context, grammar
3. Generates new outputs based on input (called a prompt)

🧠 **Main Architecture Used:** - **Transformer** (used in GPT, BERT, T5) - Uses **self-attention mechanism** to understand sequence

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🖕 Key Terms in GenAI

Term	Meaning
Prompt	Input or instruction given to AI (e.g. "Write a poem")
Output	AI's generated content based on prompt

Term	Meaning
LLM	Large Language Model (e.g. GPT-4) powering the generation
Fine-tuning	Customizing an AI model on specific data
Prompt Engineering	Writing better prompts to get better results
Diffusion Models	Used in image generation (e.g., DALL·E, Midjourney)
Hallucination	When AI gives a confident but false or made-up answer

😍 GenAI vs Traditional AI

Aspect	Traditional AI	Generative AI
Purpose	Predict / classify	Create / generate new content
Examples	Loan approval, spam detection	Text, image, code generation
Input	Data to predict something	Prompt or instruction
Output	Labels, numbers	Entire content (text, image, etc.)

👆 GenAI Applications (Across Fields)

- **Healthcare**: Generate patient reports, drug design
- **Education**: AI tutors, answer generation, quiz makers
- **Entertainment**: Music, stories, movies, voices
- **Marketing**: Blog content, ad copy, email templates
- **Coding**: Code assistants like Copilot, AI debuggers
- **Legal**: Drafting contracts or summarizing documents

👃 Interview Questions with Answers

Q1. What is Generative AI?
A: Generative AI refers to AI models that can create new content based on training data.

Q2. How is Generative AI different from traditional AI?
A: Traditional AI focuses on prediction or classification. GenAI creates entirely new data like text, images, etc.

Q3. What is a prompt?
A: A prompt is the input given to a GenAI model which guides the content it generates.

Q4. What are examples of Generative AI models?
A: GPT-4 (text), DALL·E (images), Stable Diffusion, Midjourney, T5, LLaMA.

Q5. What is prompt engineering?
A: It is the art of designing effective prompts to guide AI in generating accurate and useful outputs.

Q6. What is hallucination in Generative AI?
A: When an AI model generates false but confident-sounding information.

Q7. What architecture powers Generative AI?
A: Transformer architecture using attention mechanisms.

Q8. What are diffusion models?
A: These are used in image generation (e.g., DALL·E) to gradually form images from noise.

Q9. What is the role of LLMs in GenAI?
A: LLMs like GPT are core engines that generate human-like text and enable GenAI applications.

Q10. What is fine-tuning in GenAI?
A: It means training an existing pre-trained model on specific/custom data to specialize it.

😖Final Interview Tip:

Say:

> "Generative AI is revolutionizing how we create content. Using LLMs and transformer models, GenAI enables machines to write, draw, and even code. I've studied both theory and practical tools like ChatGPT and DALL·E, and I'm excited to build solutions using this transformative tech."

👈You're now ready for any GenAI question in an interview!