

What Do You Mean by "Generative AI"?

Generative AI refers to AI systems that **create new content**, such as:

- Text (e.g. chat, stories, code)
 - Images (e.g. art, avatars, logos)
 - Audio (e.g. voice, music)
 - Video (e.g. clips, animations)
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☐ Beginner-Friendly Project Ideas (Using Open-Source Generative AI)

1. ☐ AI Blog Post Generator (Text)

Goal: Generate blog posts from a title or outline

Stack:

- **Model:** Mistral 7B (hosted via Ollama or HuggingFace)
- **Framework:** LangChain + Streamlit or Flask
- **Bonus:** Add SEO keyword suggestions using NLP

☐ Learn:

- Prompt engineering
 - Token handling
 - Streamlit app UI
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2. ☐☐ AI Voice Cloner + Text-to-Speech (Audio)

Goal: Clone a voice and generate audio responses

Stack:

- **Model:** [Coqui TTS](#) or [Bark by Suno](#)
- **Input:** Text
- **Output:** Realistic speech (you can also clone your own voice!)

☐ Learn:

- Audio synthesis
- Voice cloning

- File handling
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3. AI Avatar/Logo Generator (Image)

Goal: Create profile pictures or logos based on a description

Stack:

- **Model:** Stable Diffusion (use [AUTOMATIC1111](#) or [InvokeAI](#))
- **Input:** Text prompt (e.g., “minimalist tech logo”)
- **Output:** Generated image

Learn:

- Prompt crafting
 - Image generation
 - Fine-tuning or LoRA
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4. PDF-to-Summary Generator (Text + RAG)

Goal: Upload a PDF and get a summary or Q&A bot

Stack:

- **Model:** Mistral or LLaMA + RAG (LangChain + Chroma)
- **Input:** PDF document
- **Output:** Summary, Q&A interface

Learn:

- RAG (Retrieval-Augmented Generation)
 - Document parsing
 - Embeddings and vector stores
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5. AI Story Game / Interactive Fiction Bot (Text)

Goal: Build a text-based game with AI-generated story progression

Stack:

- **Model:** Mistral 7B or OpenHermes via Ollama
- **Interface:** Terminal or web app (Streamlit)
- **Bonus:** Add memory to track user choices

□ Learn:

- State management
 - Creative prompts
 - Language generation
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6. □ AI Email Writer for Small Businesses (Text)

Goal: Auto-write professional emails from a few key bullet points

Stack:

- **Model:** LLaMA or Mistral
- **Frontend:** Streamlit or Gradio
- **Bonus:** Add tone control (friendly, formal, etc.)

□ Learn:

- Prompt tuning
 - Input forms
 - Exporting results (copy or email API)
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7. □ AI Video Script + Scene Generator

Goal: Input a topic → Output a script + visual ideas

Stack:

- **Model:** Mistral for script + DALL·E or Stable Diffusion for images
- **UI:** Gradio app

□ Learn:

- Multi-model integration
 - Content formatting
 - Scene description generation
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Popular Open-Source Resources to Use

Tool	Use
<input type="checkbox"/> Ollama	Run LLaMA, Mistral, Code LLMs locally
<input type="checkbox"/> LangChain	Orchestrate LLM pipelines
<input type="checkbox"/> Chroma / Weaviate / FAISS	Vector databases for RAG
<input type="checkbox"/> Haystack	Alternative RAG framework
<input type="checkbox"/> Stable Diffusion	Open-source image generation
<input type="checkbox"/> Coqui TTS / Bark	Voice and audio generation
<input type="checkbox"/> Gradio / Streamlit	Fast, simple web UIs for AI demos