



Understanding Agentic AI, LLMs, and Generative AI

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1. Title Slide

1 Understanding Agentic AI

Title: Understanding Agentic AI, LLMs, and Generative AI

2 Beginner's Guide

Subtitle: A Beginner's Guide to Modern AI Systems

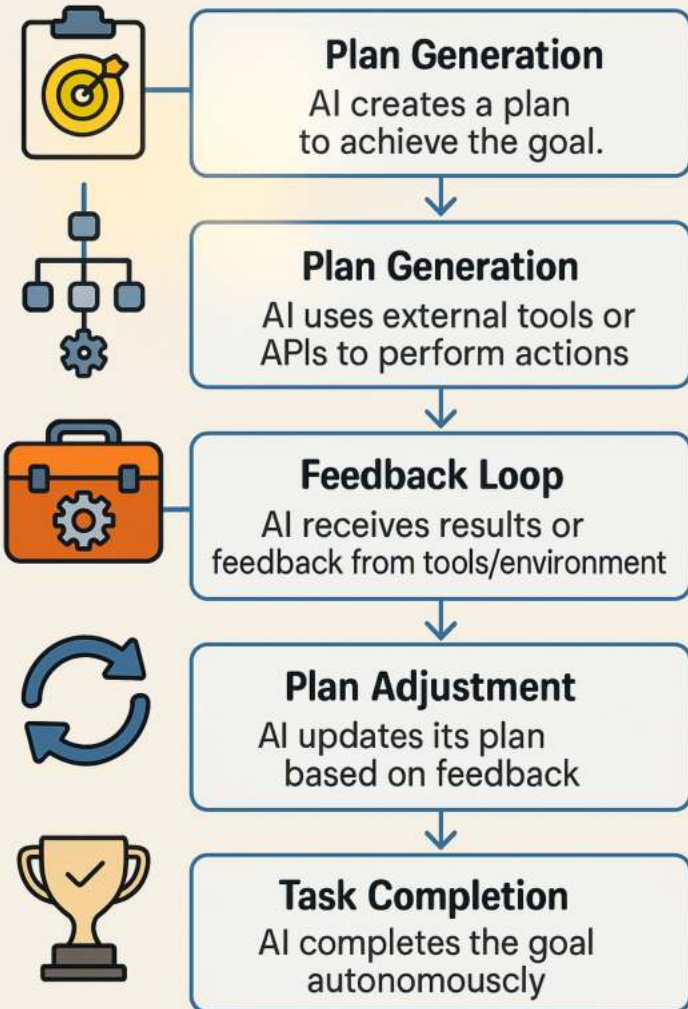
3 Visual Representation

Visual: Concept map showing Agentic AI, LLMs, Generative AI interconnected



What is Agentic AI?

HOW AGENTIC AI WORKS



Agentic AI is a type of artificial intelligence that can act like an agent—it sets goals, makes plans, uses tools, and takes actions to complete tasks autonomously (on its own).

🔑 Key Features:

- ✅ **Autonomy** – Acts without constant human help
- 🎯 **Goal-driven** – Works toward a specific outcome
- 🧠 **Planning** – Breaks big tasks into steps
- ⚙️ **Tool Use** – Can use APIs, software, or web tools
- 🔄 **Feedback Loop** – Learns and adjusts its plan as it goes

💡 Example:

Imagine you tell an Agentic AI: "Book me a flight to New York and send me the best hotel options."

The Agentic AI will: Search flights and compare prices.

Pick the best option and book it.

Look up hotel options and send you the results.

Adjust if something goes wrong (like no flights available).

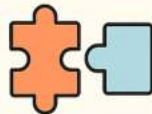
What are LLMs(Large Language Models):

HOW LARGE LANGUAGE MODELS (LLMs) WORK



INPUT TEXT

User types a sentence or question



TOKENIZATION

Text is split into smaller units called tokens



TRANSFORMER LAYERS

Tokens pass through multiple neural network layers that process and analyze context



ATTENTION MECHANISM

Model focuses on important parts of the input to understand meaning



PREDICTION

Model predicts the next token based on context



OUTPUT TEXT

Tokens are combined to form

🧠 What is an LLM (Large Language Model)?

A Large Language Model (LLM) is a type of AI trained to understand and generate human-like language. It learns from massive amounts of text (books, articles, websites) and can respond, write, explain, or summarize in natural language.

🔑 Key Features:

📖 Language Understanding – Knows grammar, meaning, and tone

💬 Text Generation – Can write essays, poems, code, etc.

🌐 Knowledgeable – Trained on large datasets across many topics

🤖 Conversational – Can chat like a human

🧩 Flexible – Works in many areas like education, customer support, and coding

💡 Example: You ask an LLM: "Explain black holes in simple words."

The LLM will:

Understand the topic from your sentence

Use its learned knowledge about black holes

Generate a clear, beginner-friendly explanation

Present it in human-like, readable language

4. What is Generative AI?

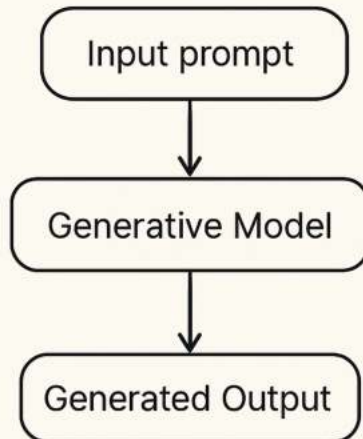
Generative AI

Generative AI refers to AI that can create new content such as text, images, audio, video, or code.

Examples:

- Text: ChatGPT
- Images: DALL-E, Midjourney
- Videos: Sora
- Code: GitHub Copilot

Workflow:



🎨 What is Generative AI?

Generative AI is a type of artificial intelligence that can create new content like text, images, music, videos, or code by learning patterns from existing data.

🔑 Key Features:

✍️ Content Creation – Generates text, images, music, and more

🤖 Learns Patterns – Understands styles and structures from training data

🎯 Creative – Can produce unique, original outputs

✂️ Versatile – Used in art, writing, programming, and design

💡 Example: You ask Generative AI: "Create a picture of a sunset over the mountains."

The AI will:

Understand your request → Use learned patterns from images of sunsets and mountains → Generate a brand-new, original picture matching your description → Show you the created image

How LLMs Work

Think of LLMs (like ChatGPT) as a very smart word-guessing machine.



Key Concepts (in simple words):

Tokenization The model splits your sentence into small pieces (called tokens). For example:

[I] [love] [pizza]

Context Window The model can only “look at” a limited number of tokens at a time (like remembering the last 3,000 words while writing).

Prediction



It predicts the next word (token) one at a time, like:

“I love” → [pizza] [coding] [music...]

It picks the most likely word



Transformers and Attention (in easy terms):

The Transformer model is like a smart filter that looks at all the words you’ve typed and figures out which ones are most important

Attention lets the model focus on key words. For example:

In “The dog that chased the cat fast”

— attention helps the model know that “the dog” was fast (not the cat).

How Does an LLM Work?

You give input

→ Example: “The sun rises in the...”

LLM breaks your input into tokens

→ Tokens are small pieces of text (like words or parts of words).

Example: [“The”, “sun”, “rises”, “in”, “the”, ...]

It looks at the context

→ The model checks all the words you gave and figures out what makes sense next. It predicts the next word/token

→ It picks the most likely next word based on what it has learned.

Example: “east.”

It keeps predicting until the response is complete

How It Understands:

It uses a system called a Transformer, which helps it understand relationships between words. The attention mechanism inside the transformer lets it focus on important words in the sentence.

1. Input Text

The user types a sentence or prompt (e.g., “The sky is”).

2. Tokenization

The model breaks the input into small chunks called tokens (words or parts of words).

3. Transformer Architecture

The tokens go through many layers in the model called transformers.

4. Attention Mechanism

The model focuses on important tokens using “attention” to understand context.

5. Predict Next Token

Based on what it has seen, the model predicts the most likely next token (e.g., “blue”).

6. Generate Output

It repeats predicting token after token until the response is complete.

Final Output

The tokens are combined back into words and sentences, producing the final output you read.



Agentic AI vs. Generative AI

Comparison Table:

Aspect	Agentic AI	Generative AI
Main Purpose	Performs tasks to achieve a specific goal	Creates content like text, images, or code
Autonomy	Acts independently, plans and adapts	Needs prompts; does not act on its own
Planning	Builds and updates plans based on goals and feedback	No long-term planning; responds to input
Tool Use	Actively uses APIs/tools to complete tasks	Rarely uses tools directly
Examples	AutoGPT, Devin, ReAct Agents	ChatGPT, DALL · E, GitHub Copilot



Real-World Examples

1 Agentic AI

AutoGPT, Devin, ReAct Agents

2 Generative AI

ChatGPT, Midjourney, DALL · E

3 Note

Agentic AI systems often use Generative AI models internally

Conclusion:

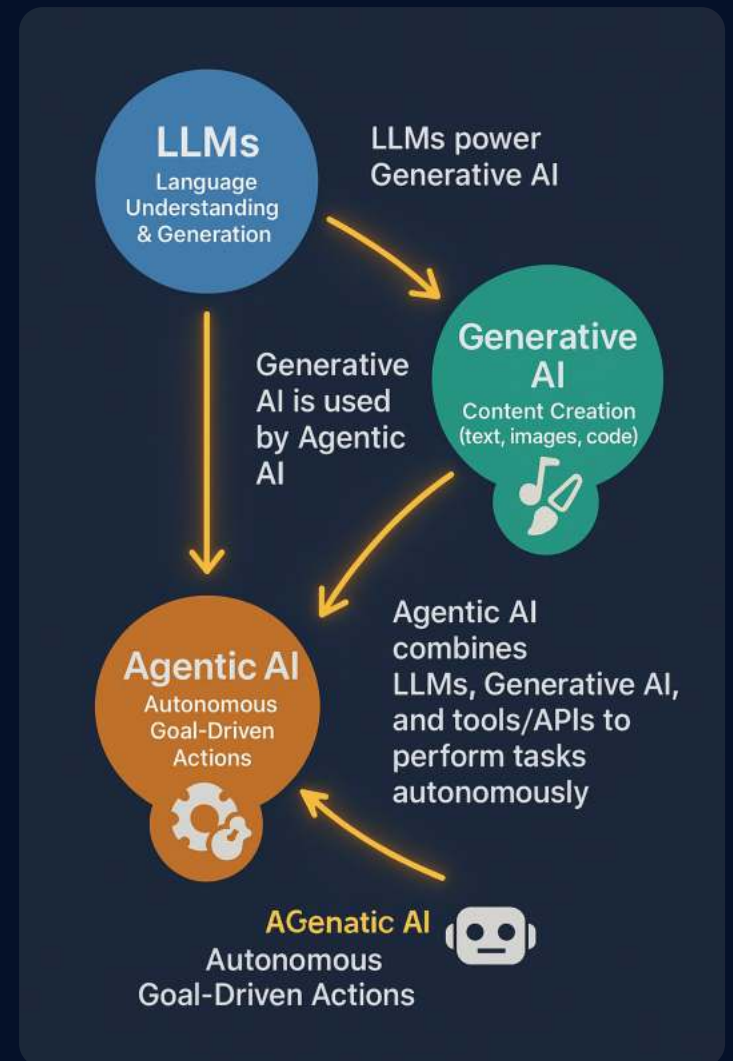


How Are Agentic AI, Generative AI, and LLMs Connected?

LLMs (Large Language Models) are powerful AI models that understand and generate human-like text. They are the “brain” behind many AI tools.

Generative AI uses models like LLMs (and other types) to create new content — text, images, music, videos, and more.

Agentic AI is like a smart manager or agent that uses Generative AI (often LLMs) plus other tools to plan, make decisions, and take actions toward a goal, acting autonomously.



Agentic AI

Autonomous goal-driven agents



LLMs

Core technology for understanding/generating language



Generative AI

Content creation AI



Understanding Roles

helps in building powerful AI applications



Thank You