🟥 Generative AI vs Agentic AI

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1. 📌 **Why This Topic First?**
   - By comparing **GenAI vs Agentic AI**, learners can:
     - Understand **why Agentic AI emerged**.
     - See the **evolution** from GenAI systems → Agentic AI systems.
   - Method: Use a **practical scenario** to demonstrate step-by-step improvements.

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3. 🧠 **Quick Refresher: Generative AI**
   - **What is GenAI?**
     - AI that **generates new content** (text, code, images, speech, video) based on prompts.
   - **Examples:**
     - Text: ChatGPT, Claude.
     - Code: Code Llama.
     - Speech: 11Labs (TTS).
     - Video: Sora.
   - **Difference from Traditional AI:**
     - Traditional AI = classical ML/deep learning (predictive).
     - GenAI = creative/content-producing (generative).
   - **Applications:** Content generation, conversation, automation, personalization, etc.

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4. 🏢 **Practical Scenario: HR Recruiter Problem**
   - **Problem Statement:**
     - An HR recruiter needs to **hire a backend engineer**.
     - Tasks include drafting JD, posting it online, screening candidates, interviewing, sending offers, and onboarding.

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5. ⚙️ **Step 1 – Using Generative AI (Basic Chatbot)**
   - Recruiter asks LLM chatbot: *"Write a JD for backend engineer"*.
   - Chatbot generates a JD (generic, not company-specific).
   - Limitations:
     - Gives **generic advice**.
     - Lacks **context awareness** about company, policies, salary ranges.
     - Recruiter must still do manual work (posting, screening, onboarding).

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6. ⚙️ **Step 2 – Retrieval-Augmented Generation (RAG)**
   - Improvement: Connect chatbot with **company knowledge base** (documents, policies, salary data, templates).
   - Now chatbot:
     - Drafts **company-specific JDs**.
     - Suggests salaries, policies, tailored advice.
   - This is a **RAG-based chatbot** (Retrieval-Augmented Generation).
   - Still limited:
     - Reactive, answers only when asked.
     - Cannot perform actions automatically (posting JD, sending emails).

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7. ⚙️ **Step 3 – Tool-Augmented Chatbot**
   - Further improvement: Integrate chatbot with **external tools/APIs**:
     - LinkedIn API (to post JDs).
     - Resume parser (to screen resumes).
     - HR management software (to trigger onboarding).
   - Capabilities:
     - Drafts and posts JDs.
     - Screens candidates automatically.

- o Sends welcome emails.
- o Triggers onboarding process (contracts, email IDs, laptops, training sessions).
- Recruiter's role reduces to **approvals and monitoring**.
- Still missing: **proactivity, context awareness, adaptability**.

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8. ⚙️ Step 4 – Agentic AI
- **Final evolution → Agentic AI chatbot.**
- Features:
  - o **Proactive** – takes initiative (not just reactive).
  - o **Goal-driven** – understands end goal (e.g., hire backend engineer).
  - o **Plans autonomously** – breaks down tasks: JD → post → monitor → screen → interview → offer → onboard.
  - o **Executes autonomously** – carries out steps without constant instructions.
  - o **Context-aware (Memory)** – remembers past steps, knows what's next.
  - o **Adaptable** – adjusts strategy if something fails (e.g., low applicants).
  - o **Human-in-the-loop** – involves recruiter only for approvals/critical decisions.
- **Key Insight:**
  - o Generative AI is just a **building block**.
  - o Agentic AI is a **broader system** combining:
    - ▪ Tools,
    - ▪ Planning,
    - ▪ Reasoning,
    - ▪ Memory,
    - ▪ GenAI models.
  - o Thus, **GenAI ⊂ Agentic AI**.

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9. 📊 Summary of Evolution
1. **GenAI Chatbot** – generates content but generic.
2. **RAG-based Chatbot** – company-specific responses using knowledge base.
3. **Tool-Augmented Chatbot** – performs actions (posts JD, sends emails).
4. **Agentic AI Chatbot** – proactive, autonomous, context-aware, adaptive, goal-driven.

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10. 🌼 Key Takeaways
- **Generative AI** = creates outputs, but mostly **reactive & limited**.
- **Agentic AI** = next level → **autonomous systems** that plan, act, adapt, and integrate tools.
- Real-world analogy: Instead of a chatbot assistant, you now have a **virtual HR manager**.
- This explains **why the world is shifting focus from GenAI → Agentic AI**.
- Upcoming videos:
  - o Deep dive into **What is Agentic AI**.
  - o Then proceed with **LangGraph fundamentals**.