

Generative AI Fundamentals



- Define generative AI and distinguish it from traditional AI



- Identify popular gen AI tools for text, image, video, and code



- Write effective prompts using the CRAFT framework



- Apply gen AI to real tasks in education, creativity, and business



- Recognize key risks: hallucinations, bias, and privacy concerns

What Is Generative AI?

A New Way to Create

- AI that creates new text, images, audio, video, and code by learning patterns from massive datasets.
- Large language models predict the next word; diffusion models turn random noise into clear pictures.
- Drafting emails, summarizing reports, composing music, and generating product photos.



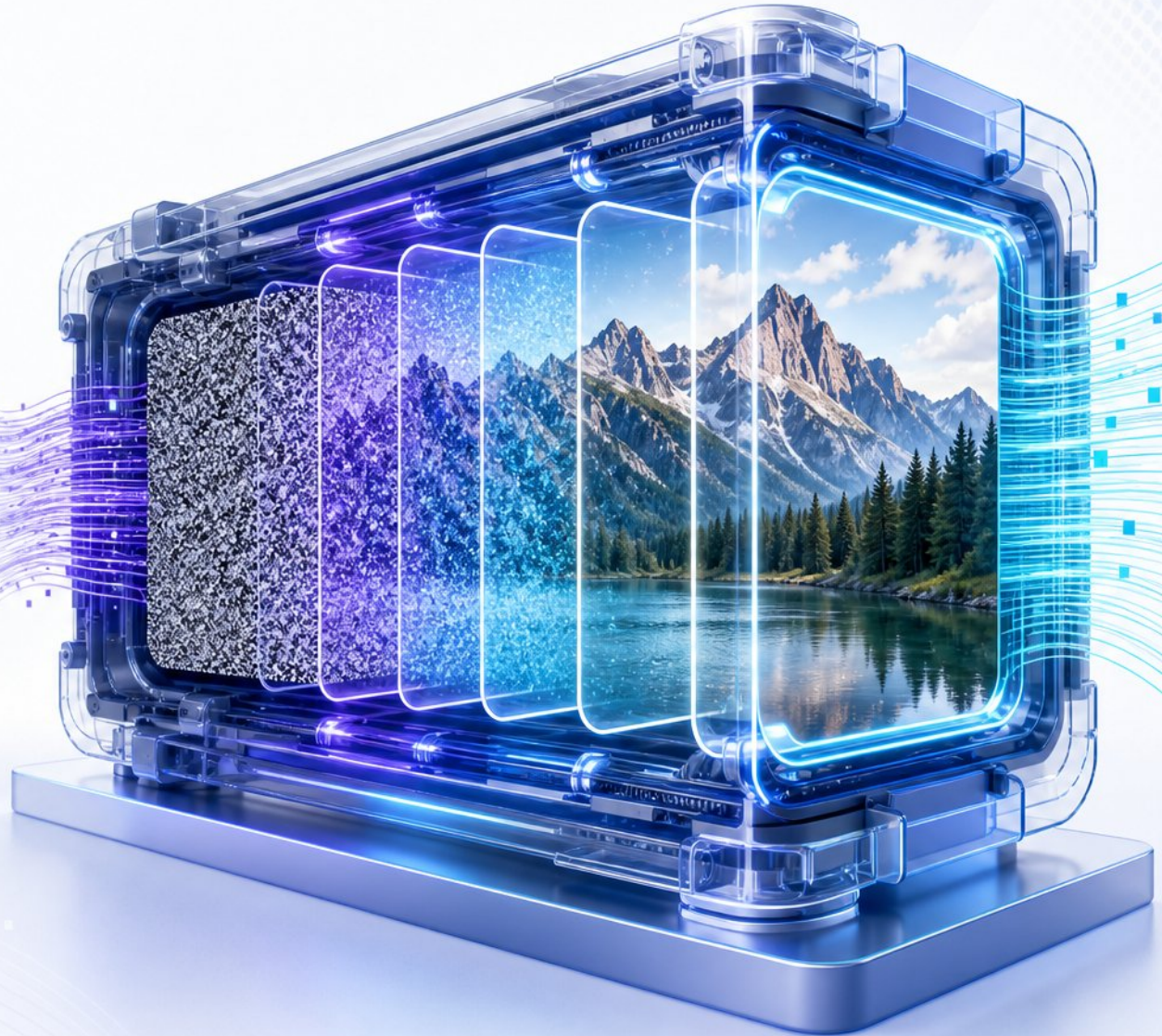
Generative AI vs. Traditional AI



- **Traditional AI** excels at classification, prediction, and pattern recognition on structured data.
- **Generative AI** creates original content—text, images, audio, video, and code—from learned patterns.
- **Traditional AI** analyzes and labels; **generative AI** produces novel outputs like a personalized email or a synthetic image.
- **Example:** A fraud-detection system classifies transactions (**Traditional**) vs. a tool drafting a custom marketing campaign (**Generative**).

How the Technology Works (Simplified)

- LLMs predict the next token word-by-word using vast text training data.
- Diffusion models reverse noise, refining static into clear images step-by-step.
- Prompts guide generation: text embeddings steer output, much like a recipe.
- Tokens are the basic units; models learn patterns, not by copying but by creating.



The Generative AI Tool Landscape in 2026



• Text & Chat:

ChatGPT for versatility,
Claude for long-form writing,
Gemini for Google integration.



• Image & Design:

Midjourney for artistic visuals,
Adobe Firefly for brand-safe use,
Canva for all-in-one design.



• Video, Audio & Code:

Runway for AI video,
ElevenLabs for realistic voice,
GitHub Copilot for code generation.

Choosing the Right Tool for the Job

- Match tools to tasks: Claude for long-form reports, ChatGPT for hooks and ideation
- For brand-safe visuals choose Adobe Firefly; for artistic concepts choose Midjourney
- Ecosystem fit matters: Gemini for Google Workspace, Copilot for Microsoft 365
- Starter creator stack: ChatGPT Plus + Canva Pro + CapCut ≈ \$45-50/month
- Start with free tiers, then upgrade only when a tool proves its value

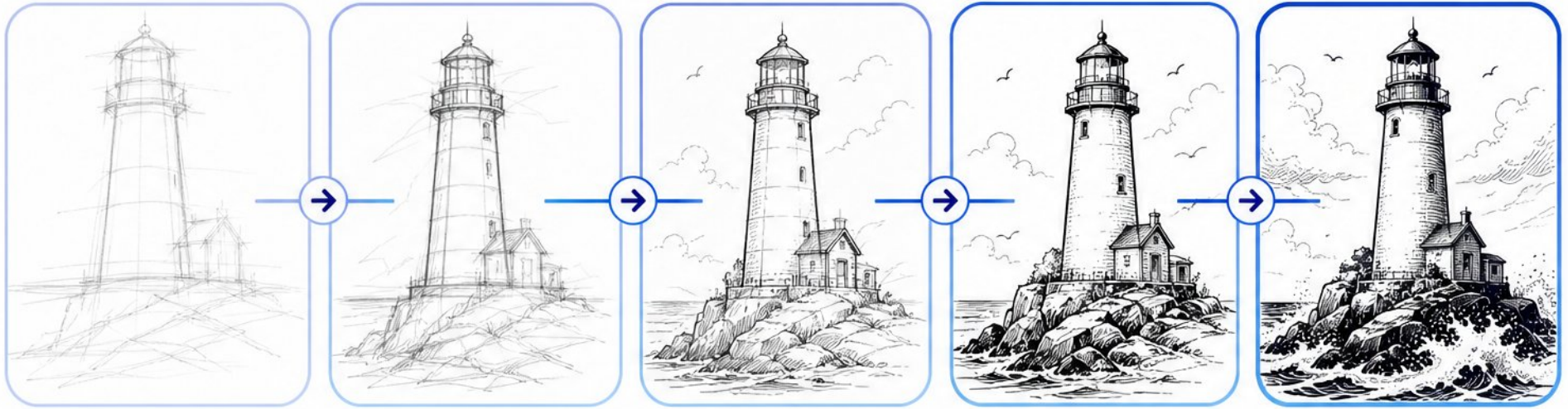


Prompt Engineering: The Core Skill

- A prompt is the instruction you give an AI; its quality directly determines output usefulness.
- Use the CRAFT framework: Context, Role, Action, Format, Tone—a repeatable structure for precision.
- Specificity transforms outcomes:
"Make it better" vs. "Act as a copywriter. Draft a 150-word email..."
- Define the success criteria and output format first; iterate, don't just accept the first draft.



Advanced Prompting Techniques



- **Chain-of-thought:** ask the model to "think step by step" to improve reasoning and accuracy.



- **Few-shot prompting:** provide 2-3 examples to lock in format, tone, or style.



- **Iterative mindset:** treat the first response as a draft and refine through conversation.



- **Use the CRAFT framework** (Context, Role, Action, Format, Tone) for repeatable structure.

Practical Use Cases for Educators

- Generate lesson plans, rubrics, and quizzes in minutes
- Use "vibe coding" to build interactive HTML/JS simulations
- Tailor materials to different reading levels and languages
- Quickly ideate scripts, storyboards, and creative prompts
- Co-create simulations with AI, guided by your pedagogy



Practical Use Cases for Creators



- Use chatbots as sparring partners for scripts, storyboards, and captions.



- Generate on-brand visuals, voiceovers, and b-roll without a full production team.



- Let AI handle repetitive drafts and variations while you focus on creative direction.



- Combine ChatGPT, Claude, Descript, and Canva for a multi-tool workflow.



- A lean tech stack replaces expensive freelance editing and writing support.



Practical Use Cases for Business Teams



- Draft emails, meeting summaries, and status reports in seconds



- Scale ad copy and repurpose content across channels with Jasper



- Interpret spreadsheets, spot trends, and prototype apps via natural language



- Generate personalized sales outreach without manual writing



The Trust Crisis: Hallucinations and Accuracy

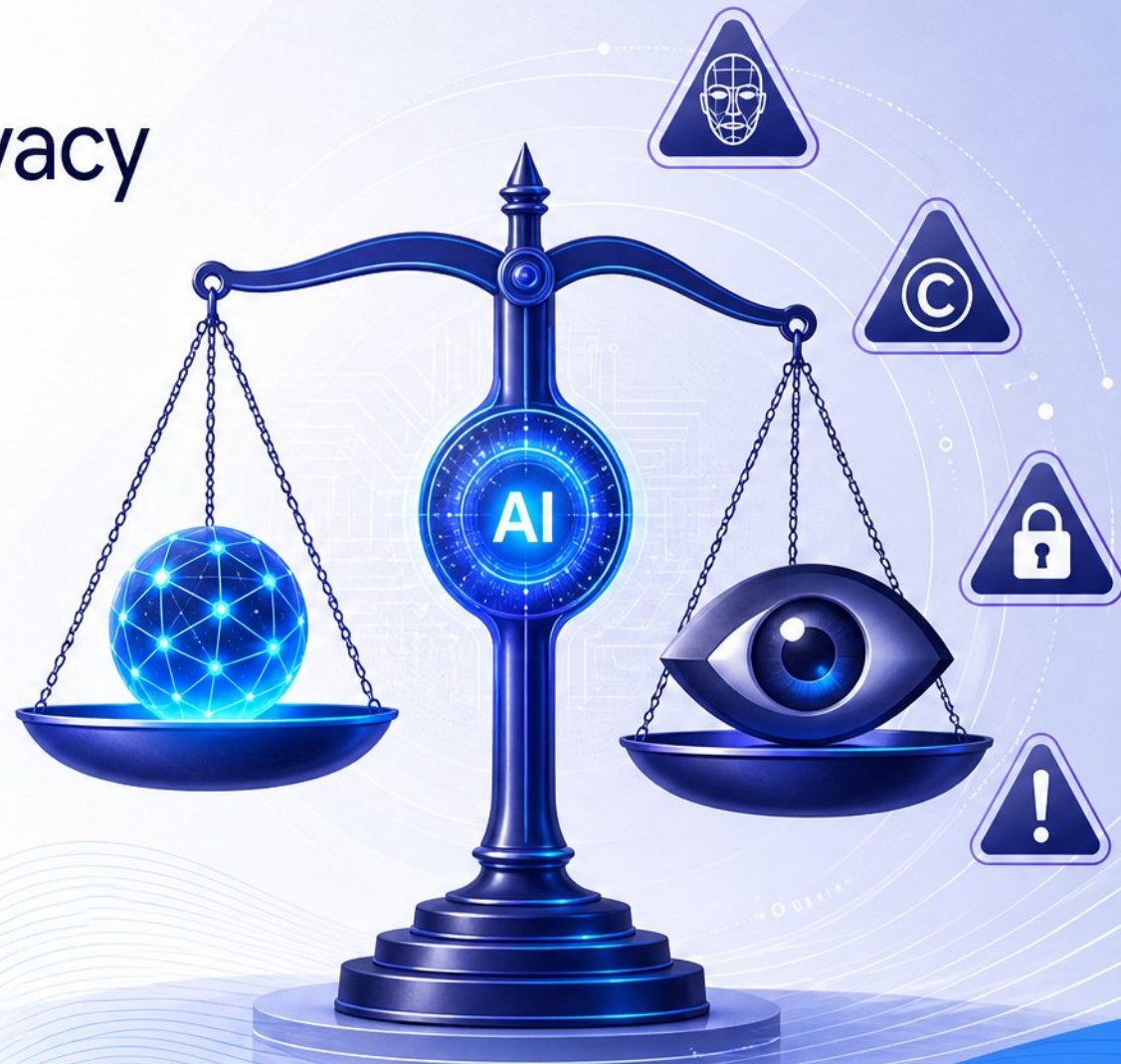
- Confident, fluent outputs that are factually wrong or invented
- Even the best legal AI tools hallucinate 17–34% of queries
- Longer contexts and niche topics sharply increase fabrication rates
- Use AI for drafting and brainstorming, not for high-stakes facts
- Human-in-the-loop review is a non-negotiable safety net



LAYERED
INTELLIGENCE
TRANSPARENCY

Responsible AI: Ethics, Bias, and Privacy

- Amplifying societal bias, deepfakes, copyright violations, and data leaks are key risks.
- Be transparent about AI use; keep humans accountable for final decisions.
- Never upload confidential data to unapproved public AI tools.
- The 2026 landscape: EU AI Act, NIST AI RMF, and evolving organizational policies.



Your First Steps and Smart Habits



- Start with free tiers: ChatGPT, Gemini, Canva Free for low-risk practice



- Build your workflow: keep a prompt journal and verify all outputs



- Join the community: Microsoft Foundry Discord, fast.ai Forums



- Learn iteratively: treat first responses as drafts, refine through conversation

Key Takeaways and Next Steps

- Generative AI augments human creativity, not replaces it
- Effective use depends on clear, thoughtful prompting
- Tomorrow: Write a CRAFT-framework prompt and compare outputs
- Build the habit of iterative, collaborative AI experimentation
- Continue learning with free communities like fast.ai and Microsoft Foundry



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