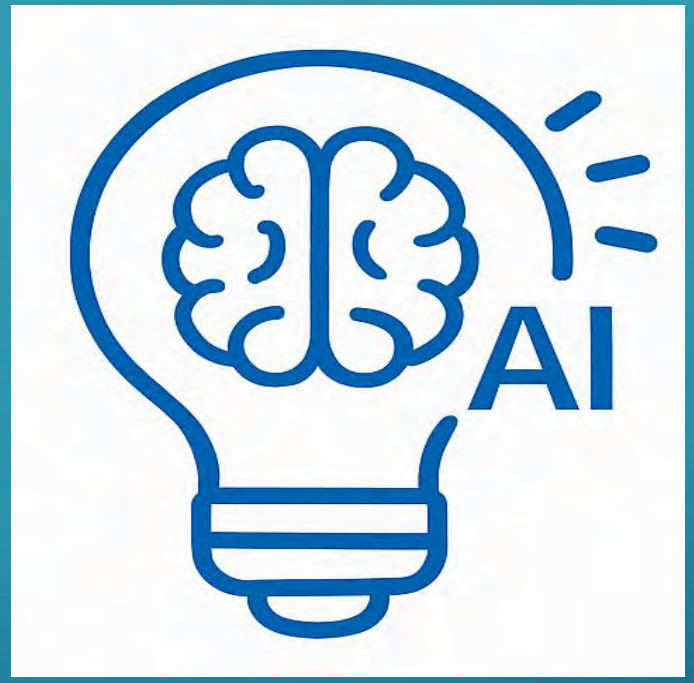
PROMPT ENGINEERING 2025



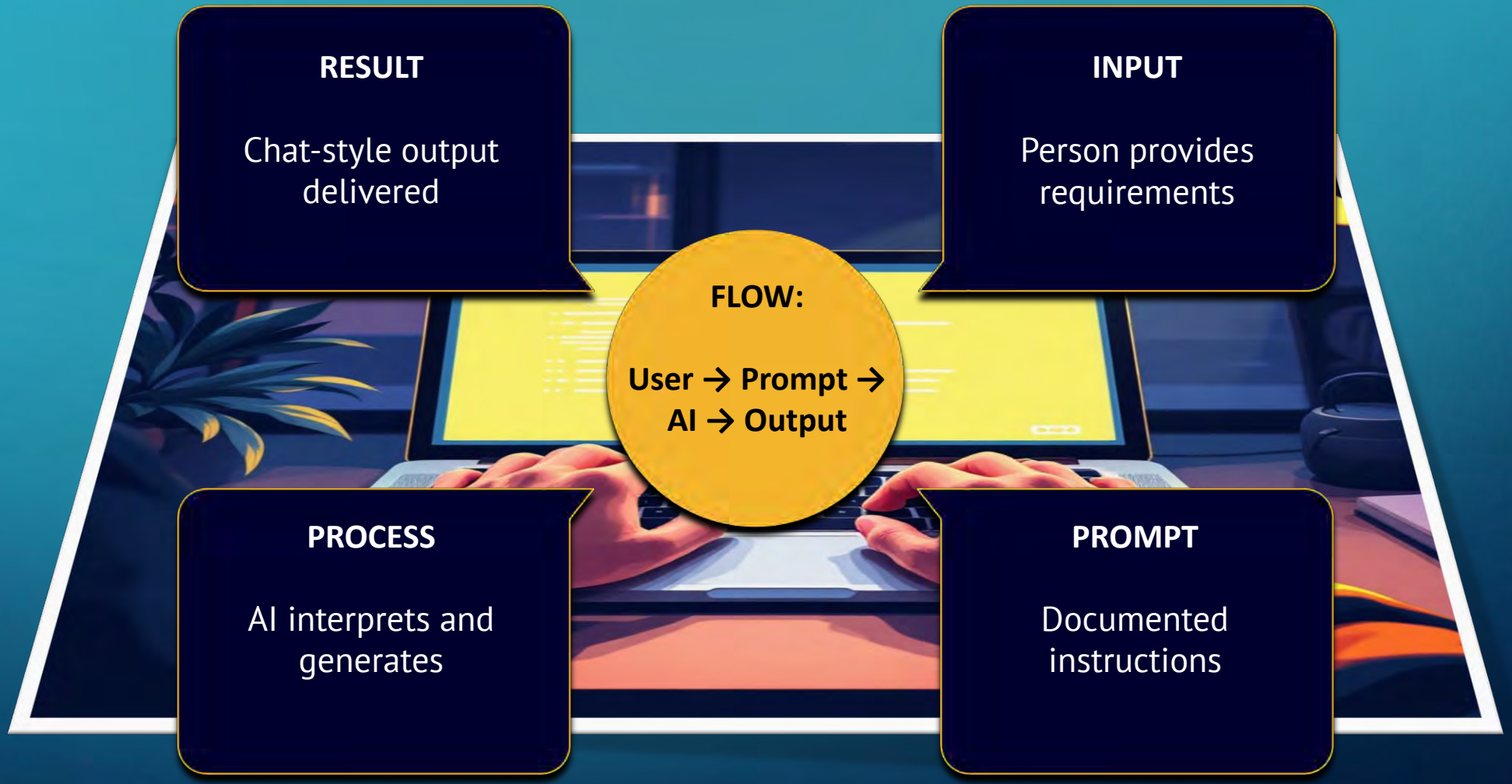
Designing Smarter Conversations With AI

Presented by: Chetan Ratnawat

AGENDA

- Introduction to Prompt Engineering
- Evolution of Prompt Engineering (2020 → 2025)
- Understanding Large Language Models (LLMs)
- Defining a Prompt
- Why Prompt Engineering Matters
- Importance of Well-Designed Prompts
- Anatomy of a Strong Prompt
- Core Prompting Techniques
- Case Studies: Successes and Failures
- Emerging Trends (2025–2030)
- Ethics and Responsible AI Practices

WHAT IS PROMPT ENGINEERING?



WHAT IS PROMPT ENGINEERING?

- It’s the art and science of instructing AI to generate the desired response.
- Involves **clarity, structure, and context** – not just keywords.
- Works across text, visuals, audio, and code models.
- Encourages consistency and transparency in AI output.
- Core principle: better input = better intelligence.

EVOLUTION (2020 → 2025)

2020

Keyword prompts — manual patterns

2021–22

Few-shot examples, templates

2023–24

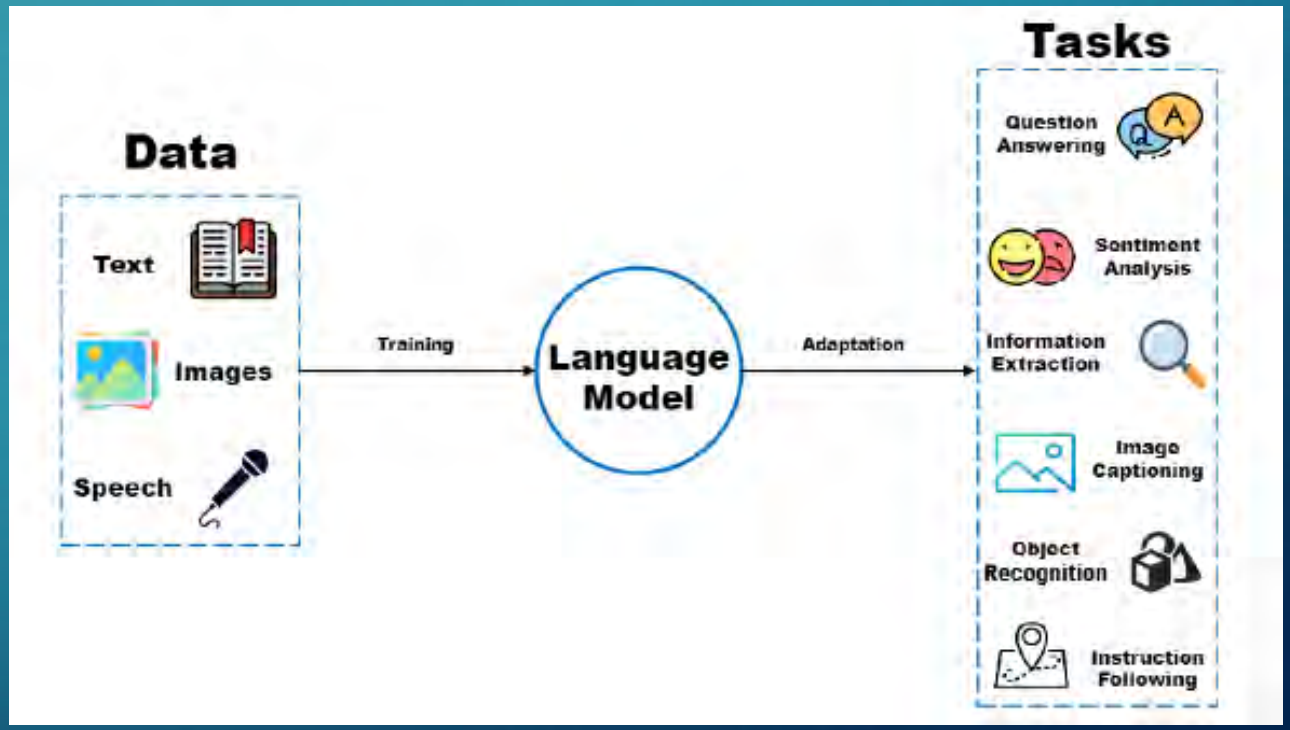
Roles, chain-of-thought, structured prompts

2025

Multimodal prompts, tool use, dynamic contexts

WHAT IS A LARGE LANGUAGE MODEL?

Large language models (LLMs) are an advanced form of artificial intelligence (AI) algorithm designed to comprehend, summarize, generate, and predict new content. These models utilize deep learning techniques, and leverage massive data sets to achieve their capabilities.



EXAMPLES OF LLM'S

GPT-4 (Generative Pre-Trained Transformer 4): An autoregressive LLM developed by OpenAI that has 2.5 trillion parameters and can perform various natural language processing tasks with minimal fine-tuning.

BERT (Bidirectional Encoder Representations from Transformers) :
A bidirectional masked LLM developed by Google that has 340 million parameters and can achieve state-of-the-art results on many natural language understanding tasks.

Google Gemini: A cutting-edge LLM created by Google DeepMind, featuring a multimodal design capable of understanding and generating human language across various formats. It is designed for superior performance on complex tasks, including natural language processing, with state-of-the-art results in benchmarks and real-world applications.

CASE STUDY: AI-POWERED FINANCIAL REPORTING CHATBOT

1. **Objective:** Automate financial summary generation and provide real-time insights for insurance management.
2. **Approach:** An AI chatbot trained using structured prompts to produce balance-sheet, profit/loss, and KPI reports.
3. **Quantitative Impact:** Achieved a **65 % productivity gain**, **94 % reporting accuracy**, and **30 % faster reporting cycles**.
4. **Prompt Example:** *"Summarize key financial trends from Q4 data focusing on revenue, expenses, and risk ratios."*
5. **Outcome:** Enhanced transparency, reduced analyst workload, and improved consistency across financial reporting processes.

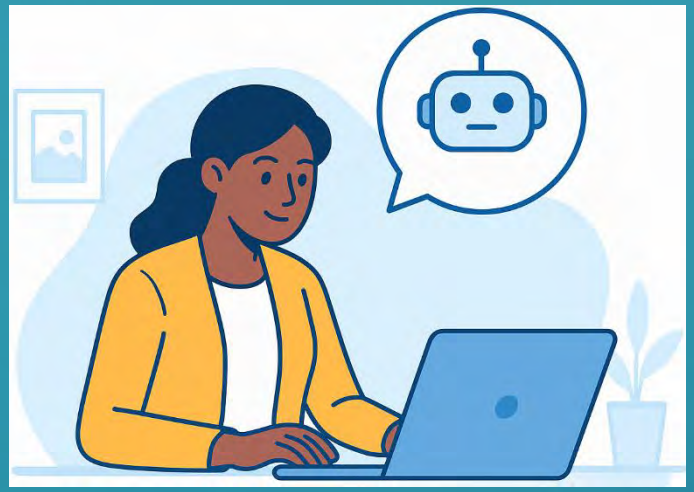
I authored the article **"AI-Powered Financial Reporting Chatbot: Transforming Insurance Industry Operations,"** which serves as an excellent case study for **Prompt Engineering in action**.

https://iaeme.com/Home/article_id/IJCET_15_06_129

WHAT IS A PROMPT?

A ‘Prompt’ in the context of Generative AI is a “call to action” for an AI tool to produce a specific output.

WHY PROMPT ENGINEERING MATTERS



- AI now drives decisions in writing, law, healthcare, and business.
- Every AI model relies on the quality of the prompt it receives.
- Poor prompts cause bias, misinformation, or wasted time.
- Good prompts turn AI into a true productivity partner.
- The skill of 2025: knowing how to “talk” to AI effectively.

WHY ARE EFFECTIVE PROMPTS IMPORTANT?

- Effective prompts are crucial as they directly influence the quality and relevance of the AI's response.
- A well-crafted prompt leads to more accurate, useful, and contextually appropriate outputs from the AI..

EXAMPLE: GOOD VS. BAD PROMPT

❌ BAD PROMPT	✅ GOOD PROMPT
“Explain AI.”	“Explain AI in 100 words using simple language.”
“Tell me about cybersecurity.”	“List three common cybersecurity threats and explain how Microsoft Defender mitigates them.”
“Help me write an email.”	“Act as a project manager and draft a follow-up email after a client meeting, highlighting next steps.”
“Write something about marketing.”	“You are a marketing manager for a new FMCG product. Write a 150-word paragraph describing the target audience and the key messages that would appeal to them.”

STRUCTURE OF A GOOD PROMPT

- **Context:** A brief description of the problem or a summary of the relevant information can help the LLM understand the task better.

Example: "You are a marketing manager for a new product launch in FMCG sector.“

- **Task:** The task should be clear, concise and specific. It should focus on the required information or action from the LLM.

Example: “Write a short paragraph that describes the target audience for the product and the key marketing messages that will resonate with them.“

- **Constraints:** Constraints limit the prompt. They can include specific requirements, length or complexity limits, or other relevant limitations.

Example: “The response should be no more than 150 words and should focus on the most important marketing messages.“

- **Extra Information:** Additional context or output format can be specified in this section.

Example: The product is a washing liquid for washing machines, targeted at urban to semi-urban households”

POWER VERBS IN PROMPT ENGINEERING

Act as Use this verb when you want the LLM to act as a specific persona. We will learn more about this in “Persona Pattern”

Analyze Use this prompt when you want the AI to analyze a set of information you feed it with. Usually, this verb is used when you are **pre-conditioning** the LLM for a much more specific task.

Summarize Use this verb when you want the AI to condense a large amount of information into a brief, comprehensive overview. Ideal for extracting key points from lengthy documents or discussions.

Generate Use this verb for creative tasks where you want the AI to produce new content, ideas, or concepts. This is particularly useful for brainstorming sessions or when seeking innovative solutions.

Predict Use this verb when you want the AI to make forecasts based on available data or trends. This is particularly useful in scenarios involving market trends, customer behavior analysis, or scenario planning.

Elaborate Use this verb to prompt the AI to provide more detailed information or expand on a particular topic. This is helpful when you require in-depth exploration or extended descriptions.

Simplify Employ this verb when you want the AI to make complex information more accessible and easier to understand, especially useful for communicating technical or specialized content to a general audience.

CORE PROMPTING TECHNIQUES

TECHNIQUE	EXAMPLE	USE CASE
Role Prompting	“Act as a senior PM…”	Structured guidance, tone + constraints
Chain-of-Thought	“Explain step-by-step”	Complex reasoning, debugging answers
Few-Shot	Provide 3 examples	Format imitation, specialised outputs
Zero-Shot	Single direct instruction	Rapid prompts, exploratory queries

THE PROMPT QUALITY CHECKLIST

- Define the goal and audience first.
- Include relevant background or data points.
- Specify desired format (bullets, summary, report).
- Add restrictions (length, tone, perspective).
- Always validate the response for accuracy and bias.

SUCCESS CASE
Productive AI in Action – Live Examples (2023–2025)

- Customer Support (Fortune-500): Gen-AI assistant ↑ ticket resolution 14% avg (34% for novices). *NBER*
- Marketing Drafts (Knowledge Work): Structured prompts → better mid-level writing. *MIT Economics*
- Consulting Workflows (BCG): Guided prompts helped non-technical consultants excel. *BCG*
- Software Work (McKinsey): Prompt libraries for code refactor + RCA saved time. *McKinsey & Co.*
- Enterprise Adoption (AI State): Governance + prompt templates scaled impact. *McKinsey & Co.*

FAILURE CASE
Lessons From Real Incidents

- **Airline Chatbots Liability (2024):** Airline liable for chatbot gave misleading ticket information. *Lesson:* Governance + human review. *(The Guardian, ABA)*
- **Sensitive Data Leaks (2023):** Staff shared confidential code. *Lesson:* DLP, sanitized prompts. *(TechCrunch)*
- **Terms-of-Service Backlash (2023):** AI training clause uproar. *Lesson:* Transparency + opt-ins. *(CBS News, AP News)*
- **AI Hiring Bias Suits (2024–25):** Bias litigation vs HR vendor. *Lesson:* Bias audits + human oversight. *(Proskauer)*

FUTURE TRENDS (2025–2030)

- **Governance**
  Standards, audits, model cards
- **AI Collaboration**
  Multi-agent workflows, co-pilots
- **Multimodal**
  AI can handle Text + image + audio prompts
- **Dynamic Learning**
  On-the-fly adaptation, live feedback

KEY TAKEAWAYS

PROMPT QUALITY

Clear intent + constraints = reliable outputs

TECHNIQUE CHOICE

Pick templates, chain-of-thought or examples to suit task

TOOLS & FRAMEWORKS

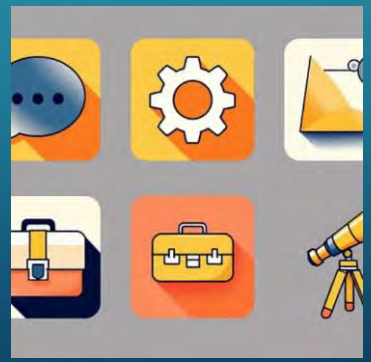
Use validators, temperature control, and system prompts

LEARN & ITERATE

Tune prompts rapidly; test edge cases

FUTURE TRENDS

Multimodal prompts, retrieval-augmented generation



ETHICAL WAY OF WORKING

- Be transparent about when AI contributes to work.
- Avoid prompts containing personal or confidential data.
- Respect originality, don’t claim AI text as personal creation.
- Use inclusive and unbiased wording in all prompts.
- Promote responsible and traceable AI-assisted decisions.

GOVERNANCE & SAFETY

- Establish clear data-handling and retention policies.
- Train teams on ethical AI and responsible prompting.
- Audit AI outputs regularly for compliance and bias.
- Encourage cross-checking of AI-generated insights.
- Integrate human-in-the-loop review for sensitive content.

REFERENCES & DATA SOURCES

- Stanford HAI — AI Index 2025: 78% of orgs used AI in 2024.
- McKinsey — State of AI 2024: 65% regularly use GenAI.
- MIT (Noy & Zhang, 2023): Time ↓37%, quality ↑0.45 SD.
- GitHub Co-pilot studies (2022–2025): completion/acceptance gains.
- Forrester TEI for Microsoft 365 Co-pilot (2024–2025): ROI scenarios.
- Air Canada case (2024): courts held company liable for chatbots errors.

INTERACTIVE DISCUSSION / Q&A

- Where could prompt engineering improve your current workflow?
- Have you experienced unexpected or wrong AI results?
- What’s one rule you’d include in an AI ethics policy?
- Let’s discuss — what makes a “perfect prompt”?

CLOSING

Thank you for joining!

“In 2025, those who master prompts won’t just use AI, they’ll direct and govern it at scale.”