Use Case Lab & Prompting Foundations

ITAG Skillnet AI Advantage

90-Minute Interactive Seminar

Identify High-Value AI Use Cases | Master Prompt Engineering

Agenda

10 min	Introduction & Why AI Now?
15 min	AI Use Case Identification Framework
15 min	Prompting Foundations & CRAFT Framework
15 min	Advanced Prompt Engineering Techniques
10 min	Context Engineering
20 min	**Interactive Live Demo** — Hands-on with ChatGPT
5 min	Wrap-up & Take-Home Exercise

Why AI Now?

The Convergence

- Massive compute power
- Abundant training data
- Breakthrough architectures
- Accessible interfaces

The Opportunity

- 10-40% productivity gains
- New product possibilities
- Competitive advantage
- Cost reduction

The AI Adoption Gap

Key Insight: 70% of AI projects fail not due to technology, but due to poor use case selection and unclear business value.

Common Failures

- Solution looking for a problem
- Unclear success metrics
- Underestimating data needs
- Ignoring change management

Success Factors

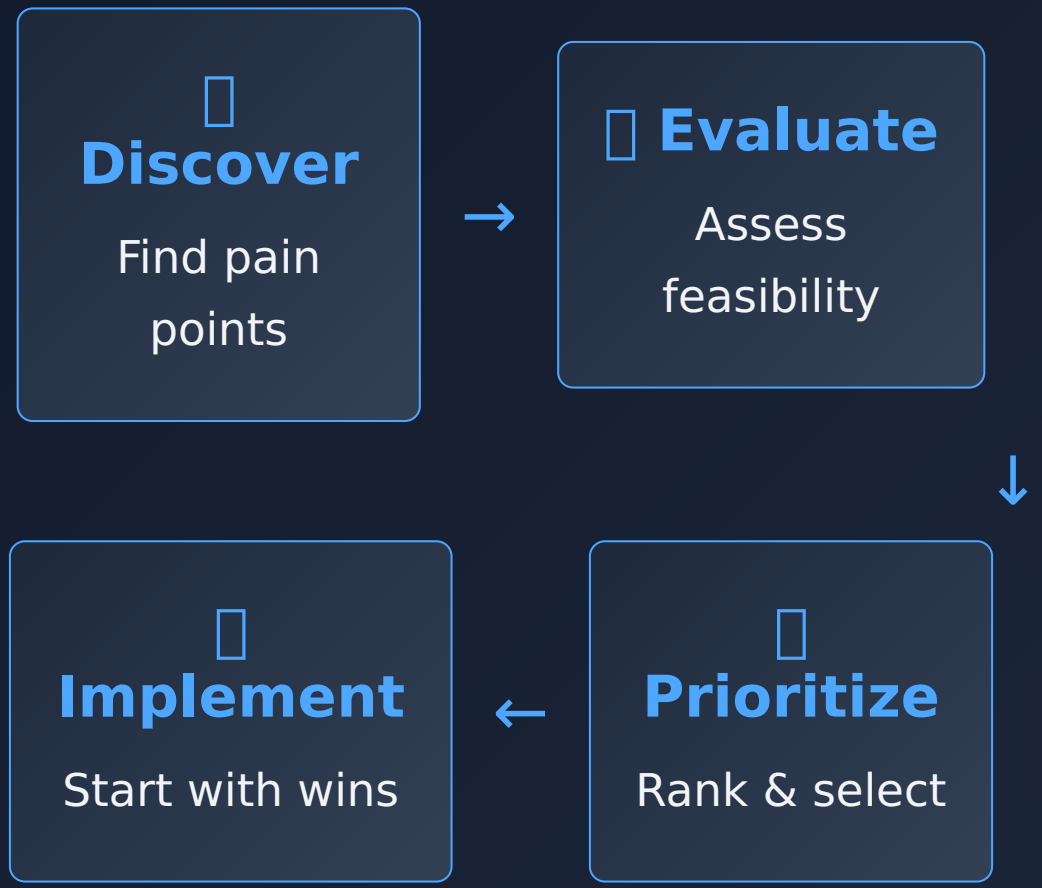
- Clear business problem first
- Measurable outcomes
- Available quality data
- Stakeholder buy-in

What AI Can (and Can't) Do Today

AI Excels At	AI Struggles With
Pattern recognition at scale	True reasoning & logic
Natural language understanding	Factual accuracy (hallucinations)
Content generation & summarization	Real-time information
Code assistance & automation	Physical world tasks
24/7 availability	Empathy & emotional intelligence

AI Use Case Identification Framework

A structured approach to finding high-value AI opportunities



Step 1: Discover Opportunities

- **A** **Process Audit:** Where do people spend most time on repetitive tasks?
- **B** **Pain Points:** What do employees complain about most?
- **C** **Data Inventory:** What valuable data is underutilized?
- **D** **Customer Feedback:** What do customers wish was faster/better?
- **E** **Competitor Analysis:** What AI are competitors using?

Common AI Use Case Categories

Content & Communication

- Email drafting & responses
- Report generation
- Translation & localization
- Meeting summaries

Data & Analytics

- Document classification
- Data extraction & entry
- Trend analysis
- Anomaly detection

Customer Service

- Chatbots & virtual assistants
- Ticket routing & prioritization
- Sentiment analysis
- FAQ automation

Development & IT

- Code generation & review
- Documentation writing
- Test case generation
- Bug analysis

Step 2: Evaluate Feasibility

Score each potential use case on these dimensions:

Dimension	Questions to Ask	Score 1-5
Data Availability	Do we have quality data? Can we access it?	___
Technical Fit	Can current AI solve this well?	___
Business Impact	How much time/money would this save?	___
Implementation Effort	How complex is the integration?	___
Risk & Compliance	Are there regulatory or ethical concerns?	___

The Value vs. Complexity Matrix

Quick Wins

High Value + Low Complexity

START HERE!

Strategic Projects

High Value + High Complexity

Plan carefully

Low Priority

Low Value + Low Complexity

Maybe later

⚠ Avoid

Low Value + High Complexity

Not worth it

← Low Complexity

High Complexity →

Step 3: Define Success Metrics

Rule: If you can't measure it, don't build it.

Quantitative Metrics

- Time saved per task
- Cost reduction percentage
- Throughput increase
- Error rate reduction
- Customer satisfaction score

Qualitative Indicators

- Employee satisfaction
- Output quality ratings
- User adoption rate
- Stakeholder feedback
- Process consistency

Use Case Canvas (Take-Home Tool)

Use this template in your take-home exercise

AI Use Case Canvas	
Use Case Name	_____
Problem Statement	What pain point does this solve?
Current Process	How is this done today?
AI Solution	How would AI help?
Data Required	What data is needed?
Success Metrics	How will we measure success?
Feasibility Score	___ / 25

Example: Customer Email Response

Use Case: AI-Assisted Customer Email Responses

Problem: Support team spends 3+ hours/day on repetitive email responses

Current Process: Manual drafting, copy-paste from templates, high variation

AI Solution: LLM drafts responses based on ticket content and knowledge base

Data Required: Historical tickets, knowledge base articles, tone guidelines

Success Metrics: 50% reduction in response time, 90%+ draft acceptance rate

Feasibility Score: Data: 5 | Tech Fit: 5 | Impact: 4 | Effort: 4 | Risk: 4 = **22/25**

This is a "Quick Win": High score + Low complexity = Start here!

Prompting Foundations

The art and science of communicating with AI

Key Insight: The quality of AI output is directly proportional to the quality of your prompt. "Garbage in, garbage out" applies more than ever.

Anatomy of a Great Prompt

1. **Role:** Who should the AI be? (Expert, assistant, critic)
2. **Context:** Background information and constraints
3. **Task:** Clear, specific instruction
4. **Format:** How should the output be structured?
5. **Examples:** Show what good output looks like

Prompt Evolution: Bad → Good

Vague (No context, format, or specificity)

Write something about marketing.

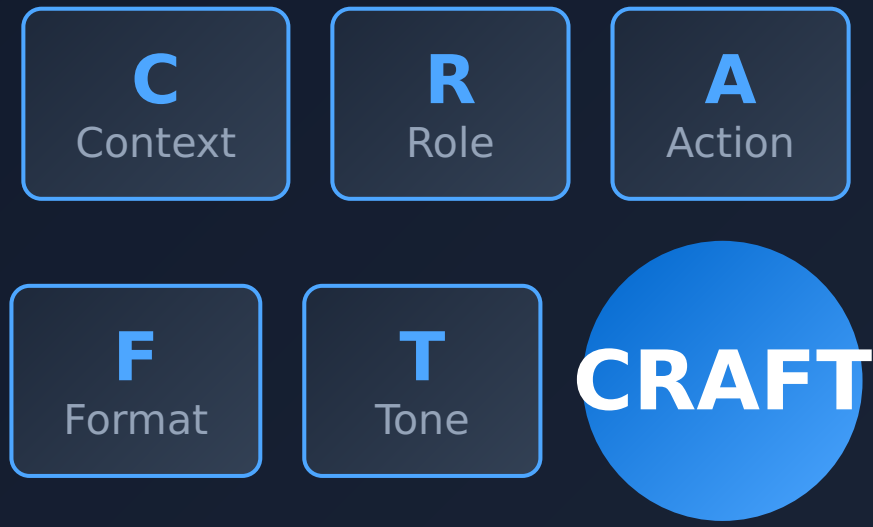
Better (Has a goal, but missing details)

Write LinkedIn posts for a SaaS company launching a product.

Effective (CRAFT applied: Context, Role, Action, Format, Tone)

Act as a B2B marketing specialist. Write 3 LinkedIn post ideas for a cybersecurity SaaS company launching a new product. Each post: under 150 words, hook opening, end with engagement question.

The CRAFT Framework



Five elements of an effective prompt

CRAFT in Action

[Context] I'm a product manager at a fintech startup. We're launching a new budgeting app for millennials next month.

[Role] Act as an experienced product marketing strategist who has launched multiple successful consumer apps.

[Action] Create a go-to-market strategy outline including: target audience segments, key messaging pillars, launch channels, and first-week success metrics.

[Format] Structure your response with clear headers for each section. Use bullet points for actionable items. Keep the total response under 500 words.

[Tone] Be direct and practical. Avoid marketing jargon. Focus on actionable tactics over theory.

Common Prompting Mistakes

Avoid These

- Being too vague
- Asking multiple unrelated questions
- Not specifying format
- Assuming AI knows your context
- Not iterating on outputs

Do This Instead

- Be specific and detailed
- One task per prompt
- Specify output structure
- Provide relevant background
- Refine through conversation

Advanced Prompt Techniques

Level up your prompting skills

Few-Shot

Provide examples to guide output

Chain-of-Thought

Ask AI to show its reasoning

Persona

Assign expert identity

Constraints

Control format & length

Technique 1: Few-Shot Learning

Show the AI what you want through examples

```
Convert these customer reviews to sentiment labels.

Examples:
Review: "The product arrived quickly and works perfectly!"
Sentiment: Positive

Review: "Took 3 weeks to arrive and was damaged."
Sentiment: Negative

Review: "It's okay, nothing special but does the job."
Sentiment: Neutral

Now classify:
Review: "Absolutely love this! Best purchase I've made all year."
Sentiment:
```

Technique 2: Chain-of-Thought

Force step-by-step reasoning for complex problems

Without CoT

```
What's the best pricing strategy for our new product?
```

Jumps to conclusion

With CoT

```
Analyze the best pricing strategy for our new SaaS product.
Think through this step-by-step:

1. First, consider our target market
2. Then, analyze competitor pricing
3. Evaluate our cost structure
4. Consider different pricing models
5. Finally, recommend a strategy with reasoning
```

Technique 2b: Tree of Thoughts

Explore multiple reasoning paths before deciding

```
We need to decide whether to build or buy a CRM system. Explore this decision using Tree of Thoughts:

For each option (Build vs Buy), consider 3 branches:

Branch 1: Cost Analysis
- What are the upfront costs?
- What are the ongoing costs over 3 years?
- What hidden costs might emerge?

Branch 2: Time & Resources
- How long until we have a working solution?
- What team resources are required?
- What's the opportunity cost?

Branch 3: Strategic Fit
- How well does each option align with our 5-year plan?
- What are the risks of each path?
- How reversible is this decision?

After exploring all branches, evaluate which paths lead to the best outcomes and recommend a decision with your reasoning.
```

When to use ToT: Complex decisions with multiple valid approaches, where you want to explore trade-offs before committing.

Technique 3: Persona Assignment

Unlock domain expertise through role-playing

```
You are a senior HR consultant with 20 years of experience in tech companies. You specialize in employee retention and have worked with companies ranging from startups to Fortune 500.

A client asks: "Our engineering team has 30% turnover. What should we investigate first?"

Respond as this expert would, drawing on practical experience rather than textbook answers.
```

Pro Tip: The more specific the persona, the more targeted the response. Include years of experience, specialization, and context.

Technique 4: Output Constraints

Control format, length, and structure

```
Summarize this article about renewable energy.

Constraints:
- Maximum 3 bullet points
- Each bullet under 20 words
- Start each bullet with an action verb
- Include one statistic from the article
- End with a "Bottom Line:" one-sentence takeaway

Format example:
- [Action verb] + [key point] + [detail]
- [Action verb] + [key point] + [detail]
- [Action verb] + [key point] + [statistic]

Bottom Line: [One sentence summary]
```

Technique 5: Iterative Refinement

Build on outputs through conversation

1. **Start broad:** "Draft a marketing email for our new product launch"
2. **Refine tone:** "Make it more casual and friendly"
3. **Add specifics:** "Include the 20% discount offer"
4. **Final polish:** "Shorten to under 100 words"

Useful refinement phrases:

"Make this more [formal/casual/concise]"

"Add [specific detail] to the second paragraph"

"Remove the section about X"

"Rewrite this for a [audience type]"

"Keep the same structure but change the tone to..."

"That's good, but also mention..."

Key: Treat AI like a collaborator. The first output is a draft, not a final product.

Technique 6: Structured Output

Request specific formats for consistent results

For Tables:
"Present the comparison as a markdown table with columns: Feature, Product A, Product B, Winner"

For JSON:
"Return results as JSON with keys: summary, key_points (array), sentiment, confidence_score"

For Lists:
"Provide exactly 5 recommendations, numbered 1-5, with a one-line rationale for each"

Example Output Request:

Analyze this customer feedback and return:

```json
{
  "sentiment": "positive/negative/neutral",
  "main_topics": ["topic1", "topic2"],
  "action_items": ["action1", "action2"],
  "priority": "high/medium/low"
}
```

Prompting Cheat Sheet

Technique	When to Use	Key Phrase
Few-Shot	Classification, formatting tasks	"Here are examples..."
Chain-of-Thought	Complex reasoning, analysis	"Think step-by-step..."
Tree of Thoughts	Decisions with multiple paths	"Explore branches for each option..."
Persona	Domain expertise needed	"Act as a [role] with..."
Constraints	Controlling output format	"Maximum X words, format as..."
Iteration	Refining outputs	"Keep X but change Y..."
Structured	Data extraction, automation	"Return as JSON/table..."

Context Engineering

Beyond prompting: Strategically managing AI's working memory

Key Shift: Prompt engineering is about *what* you ask. Context engineering is about *what information surrounds* your ask.

The Context Window

Everything the AI can "see" at once

System Instructions

Role, rules, and behavioral guidelines

Reference Materials

Documents, data, examples to draw from

Conversation History

Previous messages in the chat

Context is Limited

AI models have fixed context windows (measured in tokens)

Your context
Empty Optimal zone Limit (truncation!)

GPT-4: ~128K tokens
Claude: ~200K tokens

1 token ≈ 4 characters

Warning: More context isn't always better. Too much can dilute focus and reduce quality.

Information Priority Stack

What to include and in what order

1 **Task Definition** — What you need done Essential

2 **Output Requirements** — Format, length, style Essential

3 **Key Reference Data** — Most relevant info only Important

4 **Examples** — 2-3 high-quality samples Helpful

5 **Background Context** — Nice-to-have details Optional

Context Engineering Techniques

✂

Chunking

Break large docs into relevant pieces

Priming

Set expectations before the task

Templating

Reusable context structures

Layering

System → Reference → Task

Practical Example: Document Analysis

Poor Context

```
Here's a 50-page report. Summarize it.

[entire document pasted]
```

Problems: Unfocused, may hit limits, diluted attention

Engineered Context

```
Task: Extract key financial insights

Focus Areas:
- Revenue trends (Section 3)
- Risk factors (Section 7)

Relevant Excerpts:
[only sections 3 and 7 pasted]

Output: 5 bullet points for board presentation
```

Full Context Engineering Example

Writing a customer email with proper context structure

```
== SYSTEM CONTEXT ==
You are a customer success manager at a SaaS company. Your tone is professional but warm. You never make promises about features without checking with the product team.

== REFERENCE DATA ==
Customer: Acme Corp (Enterprise tier, $50K ARR)
Account status: Active 2 years, recently expanded
Recent support tickets: 3 tickets about reporting feature in last month
Contact: Sarah Chen, VP of Operations

== TASK ==
Write a check-in email to Sarah. Acknowledge the reporting issues, mention we're prioritizing fixes, and offer a call to discuss their needs.

== OUTPUT FORMAT ==
- Subject line + email body
- Under 150 words
- Include a specific call-to-action with calendar link placeholder
```

Context Engineering Checklist

Before You Prompt

- What's the minimum context needed?
- Is reference material relevant?
- Can I pre-filter or summarize inputs?
- What format will get best results?

Optimization Tips

- Lead with the task, not background
- Use clear section headers
- Remove redundant information
- Test with less context first

Pro Tip: Think of context like a briefing for a new employee. What do they *need* to know vs. what's nice to know?

Interactive Live Demo

Let's put theory into practice — together!

Basic
Start simple

→

CRAFT
Apply framework

→

Refine
Iterate & improve

→

Compare
See the difference

Follow along: Open chat.openai.com on your device

Demo 1: The Before & After

Watch how the same task transforms with better prompting

✗ What Most People Do

```
Write me an email.
```

Vague, no context, unpredictable results

✓ What We'll Build

```
[CRAFT-structured prompt with context, role, clear
action, format specs, and tone]
```

Specific, professional, consistent results

Demo Scenario: Meeting Summary

Round 1: Basic

```
Summarize this meeting transcript.

[paste transcript]
```

Round 2: CRAFT Enhanced

Context: This is a product team weekly sync meeting.

Role: Act as an executive assistant creating notes for the VP of Product.

Action: Summarize this meeting transcript.

Format:
- Key Decisions (bullets)
- Action Items (owner + deadline)
- Open Questions
- Next Steps

Tone: Professional, concise

[paste transcript]

Your Turn: Email Drafting

Hands-On Exercise (5 minutes)

Craft a prompt to draft a follow-up email after a sales demo.

Apply CRAFT:

- Context: What's the situation?
- Role: Who should the AI be?
- Action: What exactly should it write?
- Format: How should it be structured?
- Tone: What feeling should it convey?

Tip: Type your prompt in ChatGPT now — we'll share results!

🎯 Challenge: Pick Your Own Task

Choose one task from your actual work to try:

📧 Communication

Draft an email, message, or announcement

📝 Summarize

Condense a document, meeting, or report

💡 Brainstorm

Generate ideas for a project or problem

Build your prompt using CRAFT, then test it in ChatGPT!

🔍 Let's Compare Results

Discussion Questions

- What worked well in your prompt?
- What would you change?
- How could you iterate to improve it?

Key Observations

- More context → better results
- Specific formats → consistent output
- Role assignment → expert perspective

Remember: Prompting is a skill — it improves with practice!

Pro Tips for ChatGPT

Conversation Management

- Start new chats for new topics
- Use "Let's start over" to reset
- Reference earlier in conversation
- Save good prompts as templates

Getting Better Results

- "Be more specific about..."
- "Give me 3 alternatives"
- "What questions should I ask?"
- "Challenge this assumption"

Key Takeaways

Use Cases

- Start with the problem
- Score feasibility
- Define success metrics
- Start with quick wins

Prompting

- Use CRAFT framework
- Be specific & detailed
- Iterate & refine
- Request structure

Mindset

- AI is a collaborator
- First draft, not final
- Verify important facts
- Keep learning

Take-Home Resources

Included Materials

- Use Case Canvas Template
- Prompt Library (20+ templates)
- CRAFT Framework Cheat Sheet
- Hands-On Practice Lab

Recommended Next Steps

- Complete the take-home lab
- Identify 1 use case this week
- Practice prompting daily
- Share learnings with team

Continue Your AI Journey

ITAG Skillnet AI Advantage Program

This seminar is part of a comprehensive AI upskilling initiative. Additional resources and workshops available through your organization.

Questions?

Let's discuss!

Thank You!

Use Case Lab & Prompting Foundations

ITAG Skillnet AI Advantage

Remember: The best AI implementation starts with the right use case and the right prompt.