

AI Impact Maine — prompt-engineering-guide (preview)

RESOURCE 7: prompt-engineering-guide

OVERVIEW

- **Audience:** Employees wanting to master AI tools
- **Primary Goal:** Practical prompting techniques
- **Tone:** Educational, actionable, encouraging
- **Format:** Tutorial + templates + examples

LITE VERSION (8 pages)

Page 1: Introduction

- What is prompt engineering?
- Why better prompts = better results
- What you'll learn

Pages 2-5: 5 Essential Prompting Techniques

Each with 1-page explanation + example:

1. **The Role-Based Prompt**
 - What it is
 - When to use
 - Example: “You are a marketing manager. Help me...”
 - Practice prompt
2. **The Specific Instructions Prompt**
 - Be detailed
 - Example: “Write a 200-word email in professional tone...”
 - Practice prompt
3. **The Few-Shot Example Prompt**
 - Provide examples
 - Example: “Here’s what good looks like...” [examples]
 - Practice prompt
4. **The Chain-of-Thought Prompt**
 - Ask for reasoning
 - Example: “Think through this step-by-step...”
 - Practice prompt
5. **The Iterative Refinement Technique**
 - Follow-up questions

- Example: “Good, now make it [adjustment]...”
- Practice prompt

Page 6: 10 Ready-to-Use Prompt Templates

Organized by category: - Writing & Content - Analysis & Research - Brainstorming & Ideation - Email & Communications - Coding & Technical

Pages 7-8: What’s in Full Version

- 50+ prompt templates
- Advanced techniques
- Industry-specific examples
- Troubleshooting guide

FULL VERSION (50+ pages)

SECTION 1: Prompting Fundamentals (5 pages)

- How AI language models work (simple)
- Understanding tokens and context
- Why prompts matter
- Anatomy of a good prompt
- Common mistakes

SECTION 2: Core Techniques (15 pages)

- 8-10 core techniques, each with:
 - Explanation (how it works)
 - Why it works
 - When to use
 - 3-5 examples
 - Practice exercise

Techniques: - Role-based prompts - Specific instructions - Few-shot examples - Chain-of-thought - Iterative refinement - System prompts - Constraint-based prompts - Meta-prompts - Conditional prompts - Multi-step prompts

SECTION 3: Advanced Techniques (10 pages)

- Tree-of-thought prompting
- Decomposition techniques
- Ensembling approaches
- Retrieval-augmented generation (RAG)
- Custom instructions
- Model-specific optimizations

SECTION 4: Prompt Template Library (15 pages)

Organized by use case:

Writing (8 templates) - Blog post outlines - Email drafts - Social media posts - Product descriptions - Report writing - Creative writing - Technical documentation - Marketing copy

Analysis & Research (8 templates) - Data analysis - Literature review - Competitive analysis - Market research - SWOT analysis - Trend analysis - Risk assessment - Cost-benefit analysis

Brainstorming (6 templates) - Ideation - Problem-solving - Innovation workshops - Campaign development - Product ideas - Strategic planning

Business Communications (6 templates) - Email responses - Meeting notes - Executive summaries - Presentation outlines - Customer communications - Internal communications

Coding & Technical (6 templates) - Code generation - Code review - Debugging - Documentation - Test case generation - Architecture design

Each template includes: - Use case description - Template prompt - Customization tips - Example output - Variations

SECTION 5: Troubleshooting & Optimization (5 pages)

- “My AI outputs are inaccurate” – solutions
- “AI outputs are generic” – solutions
- “AI doesn’t understand context” – solutions
- Optimization checklist
- When to use different tools

SECTION 6: Industry-Specific Examples (10 pages)

- Healthcare/nonprofits
- Financial services
- E-commerce
- Professional services
- Manufacturing
- Education

For each industry: 3-5 specific, optimized prompts

SECTION 7: Prompt Engineering for Teams (5 pages)

- Sharing and versioning prompts
- Building prompt libraries
- Best practices
- Training team members
- Measuring prompt effectiveness