Lesson 16: Writing AI Documentation — Style, Structure, and Examples

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Overview

AI technical writing combines clarity, precision, and storytelling.
Your goal is to explain **how AI systems work**, **why they're designed that way**, and **how developers can use them** — all in plain, structured language.

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1. Purpose of AI Documentation

Good documentation answers **three questions:**

1. *What does the model do?*
2. *How does it work?*
3. *How do I use it safely and effectively?*

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2. The Three Main Types of AI Documentation

1️⃣ Model Card

Describes a model's purpose, training data, limitations, and ethical use.

Example sections:

- Model Overview
- Intended Use
- Limitations and Risks
- Performance Metrics
- Ethical Considerations

2️⃣ API Documentation

Explains how to access and integrate an AI model programmatically.

Example:

```
POST /api/v1/text/generate
Headers:
  Authorization: Bearer <API_KEY>
Body:
  {
    "prompt": "Explain AI in simple terms",
    "max_tokens": 50
  }
```

```
Response:
  {
    "output": "Artificial intelligence is..."
  }
A good AI API doc must include:

Endpoint description

Parameters (inputs)

Response format (outputs)

Example requests/responses

Error codes

3️⃣ User Guide / Integration Manual

Describes how to use the AI system in practice.

Example structure:

1. Introduction
2. Installation
3. Using the Model
4. Sample Outputs
5. Troubleshooting
6. Support


This is the most human-facing form of documentation.

3. Writing Style: The “3C” Principle
Principle   Description Example
Clear   Use simple language “Train the model” not “Commence model
optimisation process.”
Concise Keep sentences short and to the point   Avoid long, technical
tangents.
Contextual  Always tell the reader why  Don’t just show code — explain
what it does and when to use it.
4. Tone and Readability

Use neutral, friendly professionalism — not overly academic or overly
casual.

Use active voice: “The system stores embeddings,” not “Embeddings are
stored by the system.”

Add micro-explanations for technical terms:

“Embedding — a numerical representation of text meaning.”

Write in modular sections: short paragraphs, code blocks, and bullet
points.
```

```
5. Example: Documenting a Simple AI Model

Here’s how you might describe an image classification model.

Model Overview

This model classifies input images into one of 10 object categories such
as “cat,” “dog,” or “car.”
It uses a Convolutional Neural Network (CNN) architecture trained on the
ImageNet dataset.

Input

Image file (JPEG or PNG)

Maximum size: 512 × 512 pixels

Output

Predicted label

Confidence score between 0 and 1

Example:

{
  "label": "cat",
  "confidence": 0.95
}

Intended Use

This model is designed for educational and demonstration purposes.
It is not suitable for medical or security-critical applications.

Limitations

May misclassify unfamiliar objects.

Accuracy decreases with poor image quality or low light.

Ethical Use

Do not use for surveillance or identification without consent.
Follow regional data protection laws (e.g., GDPR).

6. Visual Aids and Formatting

Use diagrams or callouts to break up complexity.

Example:

📘 Tip: Always include architecture diagrams when documenting machine
```

```
learning pipelines.
They help readers see how data moves through the system.

7. Your Role as a Technical Writer

You are the translator between developers and users.
Your work ensures people can understand, trust, and safely use AI
technology.

8. Summary Checklist ✅

Before publishing AI documentation, ask:

 Is it clear for non-experts?

 Does it explain both how and why?

 Are inputs/outputs fully described?

 Are ethical and safety notes included?

 Does it include examples and visuals?

“The best AI documentation isn’t just accurate — it builds trust between
humans and intelligent systems.”
— Leslie Amadi, AI Technical Writer
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