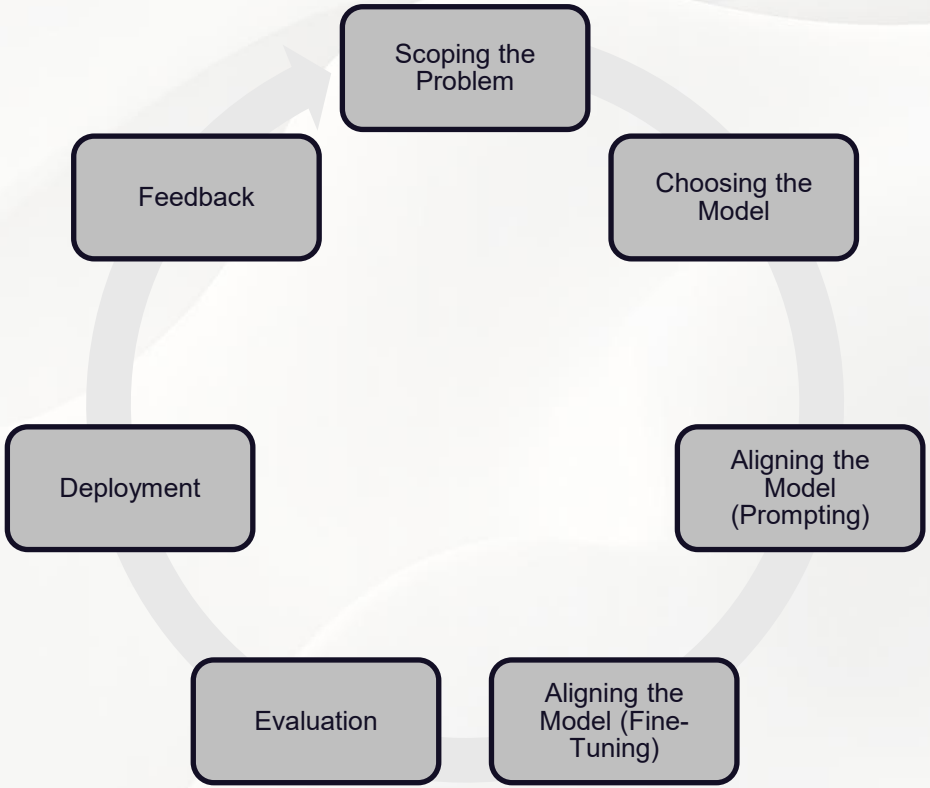
AI Project Lifecycle



AI Project Lifecycle

Scoping

What problem are we solving?	Be specific
Why does this problem matter?	Business impact
How will we measure success?	Quantifiable metrics
What are our constraints?	Time, budget, data, regulations
Is AI the right solution?	or is it a process problem?

Bad Scoping

Use AI to improve sales

No clear metrics

Undefined timeline

No consideration of available data

Good Scoping

Predict which leads are most likely to convert within 30 days, achieving 75% accuracy, to help sales prioritize outreach

Clear metric: 75% accuracy

Defined timeline: 30 days

Implies data needed: lead characteristics and conversion outcomes

AI Project Lifecycle

Scoping
Model

1. Pre-trained Generative AI (ChatGPT, Claude, Gemini)	Pros: Ready to use, no training needed, versatile
	Best for: Content generation, analysis, general tasks
2. Custom Machine Learning	Pros: Optimized for specific task, full control
	Best for: Unique requirements, specialized predictions
3. Fine-tuned Models	Pros: Combines general knowledge with specific expertise
	Best for: Domain-specific content, consistent style/format

AI Project Lifecycle

Scoping

Model

Alignment (PE)

Alignment through Prompt Engineering	**Using PICF framework**
	Iterative refinement through conversation
	No code or training required
	Fastest path to results
When to use	**General tasks, varied requirements, rapid iteration**

AI Project Lifecycle

Scoping

Model

Alignment (PE)

Alignment (FT)

Alignment through Fine Tuning	**Taking a pre-trained model and training it further on your specific data**
	Teaches it your domain, style, or specialized knowledge
	Requires: Hundreds to thousands of examples
Example	**Teaching ChatGPT your company's writing style**

Prompting

What it is: Giving the AI instructions and examples at the moment you ask the question.

Analogy: Giving a smart, general-purpose assistant (like a new intern) a very good set of instructions.

Cost: Cheap & Fast.

Rule: ALWAYS START HERE.

Fine-Tuning

What it is: A permanent update to the model's "brain" by re-training it on thousands of your private labeled data examples.

Analogy: Sending that intern to a 6-month specialized training course.

Cost: Expensive & Slow.

AI Project Lifecycle

Scoping
Model
Alignment (PE)
Alignment (FT)
Evaluation

Quantitative Metrics:	**Accuracy, speed, cost per query**
Qualitative Assessment:	**Human review of outputs**
A/B Testing:	**Compare AI vs. current approach**
User Feedback:	**Are end-users satisfied?**
Business Metrics:	**Did it achieve the business goal?**

Human-in-the-Loop (HITL)

Definition:

A process where a human must review, approve, or correct the AI's output before it becomes final.

Solution to Ethics

To fix Bias: An AI can suggest which resumes to review, but a human makes the hiring decision.

To fix Hallucinations: An AI can draft a report, but a human must fact-check and approve it.

NOT "optional"

It is the only way to use AI responsibly.

AI Project Lifecycle

Scoping
Model
Alignment (PE)
Alignment (FT)
Evaluation
Deployment

Integration:	**How does AI fit into existing workflows?**
Scale:	**Can it handle the expected volume?**
Monitoring:	**Are we tracking performance?**
Rollout Strategy:	**Pilot → Limited Release → Full Deployment**
User Training:	**Do people know how to use it?**

AI Project Lifecycle

Scoping
Model
Alignment (PE)
Alignment (FT)
Evaluation
Deployment
Feedback

User Feedback:	**What's working? What isn't?**
Performance Monitoring:	**Track metrics over time**
Edge Case Discovery:	**Find scenarios where AI struggles**
Model Updates:	**Refine prompts, retrain, or fine-tune**
Loop Back:	**New insights lead to new scoping**

Common Lifecycle Pitfalls

Skipping scoping	"Let's just try AI and see what happens"
Over-engineering early	Fine-tuning before testing with prompts
Ignoring evaluation	Deploying without testing
No feedback mechanism	AI stagnates
Unrealistic timelines	"We need this in 2 weeks"