

AI Isn't Human — But It Can Think Like One (If You Guide It)

Reframing AI as a Collaborative, Transparent Problem Solver



Not a Genie.

A Junior Engineer:

Too often, AI is treated like a shortcut: give it a vague prompt and expect a perfect solution. But high-performing teams don't work like that.

They expect:

- Clear problem statements
- Reasoning and trade-offs
- Diagnostic steps
- Documentation of choices

WHAT IF WE EXPECTED THE SAME FROM OUR AI?

Engineering AI to Think in Steps

By structuring how we ask and how the AI thinks, we can improve:

- Reliability (AI doesn't skip critical steps)
- Trust (We can inspect and validate the logic)
- Repeatability (Same inputs = same outputs)

Instead of saying: "Design a bearing for me," we can guide AI with:

"First list candidate d/D values from catalog. Then check if Cr meets requirement. Then recommend top 3 options and explain why."

It's like mentoring a junior engineer: show your work, walk me through your process.

Examples at ABS	Use Case	Human Process	AI-Guided Thought Process
	Bearing selection	Review d/D/B, match Cr/Cor, check clearance	Catalog filter → Load match → Explain top 3
	PDF Search Tool	Ctrl+F + knowledge	Parse tables → Extract structured values → Rank by confidence
	Future Chatbot	Answer customer with verified info	Ask clarifying Qs → Check product database → Show sources

Tools That Support Step-by-Step AI

We're already using structured approaches like:

- Chain-of-Thought prompting: asking the AI to explain each step
- Tree-of-Thought reasoning: explore multiple options before picking the best
- NLP Explainability: highlight where the answer came from in a document

These tools are powerful not just because they work — but because they help us trust how they work.

Takeaway: Don't Just Prompt. Guide.

AI isn't magic. It's logic. And if we treat it like a tool that can think with us — not just for us — we get better results.

Next time you use AI

- Break the task into steps
- Show its reasoning
- Highlight trade-offs
- Document what it considered and why

That's not just smarter AI. That's engineering-grade AI.