



Gen AI: A cognitive industrial revolution

Silicon Valley pioneer Reid Hoffman explains why we should view generative AI as a “steam engine of the mind” that promises to profoundly alter our professional and personal lives.



The advent of steam power in the late 18th century utterly transformed manufacturing, transportation, and construction. A new kind of upheaval is already under way—one that will energize all language-based capabilities, including communication, reasoning, analysis, sales, and marketing. In this episode of the [At the Edge](#) podcast, Reid Hoffman, a partner at venture capital firm Greylock Partners, and cofounder of LinkedIn and Inflection AI, speaks with McKinsey's [Lareina Yee](#) about the generative AI revolution and how it can teach users to understand and harness its power.

An edited transcript of the discussion follows. For more conversations on cutting-edge technology, follow the series on your preferred podcast platform.

Teaching gen AI chatbots the importance of both IQ and EQ

Lareina Yee: I asked both ChatGPT and Inflection AI's Pi to introduce you, Reid, and here is what they had to say. Pi said: "Reid Hoffman, Silicon Valley titan. Stands on the edge of innovation where the boundaries of technology are pushed to their limits."

In contrast, here's what GPT had to say: "Get ready to dive into the digital realm with Reid Hoffman. Like an Avenger assembling allies, Hoffman pioneers the art of connection, shaping our future of the interconnected world."

Welcome, Reid. Which of these introductions do you like the most?

Reid Hoffman: Well, I like them both. And the fact that you could so easily generate two pithy introductions says something significant about how far AI has come in the last couple of years. Both of them would suffice quite well.

Lareina Yee: Reid, here's a technical question before we get started: How are those two models trained differently, such that with the same amount of information in the public domain, they create slightly different introductions?

Reid Hoffman: There's a lot of things that go into the training of these models beyond simply providing data. These models are intensive learning machines. And in this phase, called post-training with human-feedback learning, they go through a set of drills and give two answers, and the human judge says, "This one is better."

So in the case of Inflection's Pi, one of the things that the Inflection team came up with was to train emotional intelligence [EQ] as intensely as we train IQ. So when we're doing human-feedback learning, we teach Pi to give an answer with EQ.

One simple example might be if you asked both Pi and ChatGPT how much you console a friend after the loss of a treasured family pet. They would both give the same sort of answers, but ChatGPT might say, "And here are the five things you could do."

Pi, on the other hand, might say, "You know your friend. What would count as being there for your friend? Might it be just expressing the sympathy that you feel with them in their moment of anguish? Or something else?" And then it would help you walk through that, even though both models know the five possible actions.

Lareina Yee: This is pretty extraordinary, because you're basically saying we have the IQ, but we can also train EQ. That could include empathy, active listening, how to stay positive, and how to listen to feedback. Tell us a little bit about how you see those two attributes in AI solutions, and the connection to our experiences.

Reid Hoffman: One thing that's certain in the next five to ten years is that we are going to have agents everywhere, doing all kinds of things for us through all kinds of interactions. There will be agents for groups, agents for companies, and many other types. And the most natural thing when you're doing engineering is to get IQ correct. But one of the things that's really essential for people is how we bring EQ into it, which I thought was a great insight by the Inflection team.

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And of course, good EQ is recognizing what good EQ means to a hyper-rationalist, whose attitude is, “Just the facts, please.” Good EQ also needs to recognize what EQ means to someone who says, “What I really care about is how people feel about their position on the team, or how they’re interfacing and interacting with other people on the team, or in the industry, or in the world.” And those require judgment calls, which is part of the nuance around how these models are developed and built.

A groundbreaking technology for use at the office—and at home

Lareina Yee: Right now, in some of the documented gen AI use cases, people use it as a tool, as a prompt to help them express something, or to help draft a marketing campaign. But this is different. Because instead of helping with your individual task, it actually might help the collective effectiveness of the team. So it’s not going to necessarily help you code. But it may help your coding team perform better and produce a better product faster.

Reid Hoffman: Yes. Part of what’s going to be important is how we increase our collective performance. Life is a team sport, as I wrote in my first book, *The Startup of You*. So how we play as a team really matters.

Lareina Yee: What are you seeing outside of working hours? How are these tools, these agents, being used to improve people’s lives?

Reid Hoffman: One of the major delights of being a technology innovator and creator occurred when we first put Pi out there, and we started seeing a whole set of use cases we hadn’t really envisioned but are really helpful to people. I get a lot of comments from people who compare it to a therapist, or say it’s a useful conversational support.

But there’s a whole range of possible uses. For example, one of the women at the Greylock Partners office became a mother when Pi launched, and she ended up using it as the first stop for advice for all the things that she was encountering as a new mother. So Pi is an agent you can use in all aspects of your life, not just at work. And that was part of the concept behind Pi.

The ‘steam engine of the mind’ explained

Lareina Yee: We’re seeing this proliferation of use cases above and beyond what we could have predicted. And you’ve talked about generative AI being the new cognitive industrial revolution. Those are three really weighty words. Can you unpack and explain that?

Reid Hoffman: Part of the reason I use these startling expressions, like “steam engine of the mind” or “cognitive industrial revolution,” is to try to get everyone to think at the appropriate level of boldness, scale, and importance relative to society, relative to industry, and relative to their own life.

The steam engine gave us a tremendous number of physical superpowers in manufacturing, transport, and construction by ultimately creating machinery that was more powerful and mobile than simple watermills. The same thing is happening now with cognitive capabilities in anything that we do that uses language, be it communication, reasoning, analysis, selling, marketing, support, and services.

For example, I'm sometimes asked questions like, "I've got a steel manufacturing business. How is this going to be relevant to me?" And I reply, "You do sales and marketing. You do meetings. You do financial analysis. It's going to affect all of that. Even if it doesn't refactor your supply chain or figure out different means of steel manufacturing, it will still affect everything, both in industry and in society."

And what makes it even bolder than the Industrial Revolution or the printing press is obviously the speed at which it will be moving. Because when a new AI agent is built or a new AI product is offered, it could reach billions of people in days because of the internet and mobile infrastructure.

But in terms of life and work, the default question is not will it make an impact, but what kind of impact will it have, and when? What impact will it have this year, in the next couple years, in five years, ten years, and 20 years? And by the way, no one can predict that particularly well, because it's just too large and too complicated.

So anyone who says they know exactly what gen AI will or will not be is either deluding themselves or just trying to posture. And that's part of the reason why my general recommendation to people is to start playing with gen AI. Try different engines, try it multiple ways, and try it for things that actually matter to you on a daily or weekly basis.

And if you try a prompt and it doesn't really work that well, try it a couple different ways. And if you try it ten or 20 ways and none of them are really working that well, then you've learned it's not as good for these things right now but may improve in the future.

Use gen AI to learn about gen AI

Lareina Yee: Think about a CEO, the head of a business unit, or executive teams. How do they meet the moment?

Reid Hoffman: The minimum is to start experimenting. And part of the experimenting is going out and seeing what other people are doing. Look at blogs and listen to podcasts, which can uncover something unexpected that can easily be useful and provide a lens.

Obviously, there are a bunch of different technical papers on AI. And working your way through them can be daunting and time consuming. But one of the useful things you can do with these agents, whether it's ChatGPT-4, Bing Chat, or any other, is to ask them to explain the paper in terms relevant to you and your industry. And by the way, they'll do a pretty interesting job, so it's a great way to stay current.

One of the very broad superpowers of all these large language models is their ability to do translation. And the translation is not just English into French, or French into Spanish. It's also the translation of English into code. Or English into an image. Or a technical paper into everyday English. Or a technical paper into the language of a marketing expert, or a brand expert.

Decide whether to lead, match, or follow innovation

Lareina Yee: If it is a cognitive industrial revolution, then business leaders should be thinking more than playing with the technology. Reid, what are some of the outer edges of bold action that you're starting to see?

Reid Hoffman: One thing businesspeople have to understand is that their speed of innovation is not set by internal rumblings, their stomachs, or in-house meetings, but by the industry as a whole—and by what their competitors, suppliers, partners, distributors, and society are doing. That's what's actually setting the pace.

Sometimes it's OK to say, "We're going to be a deliberate follower and let other people do the experimentation." But sometimes, being a follower means you lose. So you have to think about where you need to lead, where you need to match, and where you can follow. And in those cases where you determine you should be leading, then you obviously have to pick up your game quite a lot.

There isn't necessarily a one size fits all. But what you should take as a certainty when it comes to work over the next five-plus years is that AI is going to offer tools for everything, to amplify any capability that includes language—or the cognitive functioning of language.

So the question is, how are you deciding between leading, matching, and following across different areas? And then, how are you getting involved? And finally, how important is this to do in your area?

Manage the inevitable workforce transition with compassion

Lareina Yee: At McKinsey, we think this is the first automation technology that addresses knowledge work, and it represents such a profound shift in the way in which technology has previously affected work. If I'm a manager listening to this podcast, I'd say, yes, I'm in for IQ and EQ. But if I'm just starting out in my career, it feels like I'm going to need some new skills. How will I stay relevant with the enterprise?

Reid Hoffman: One, go back to what I was saying before: experiment. Two, read and listen to things. Ask yourself, "What kinds of things might I experiment with? What did other people experiment with, and how do I learn from them?" One of the more interesting things about these new agents and models is that you can ask them how they can help you.

Lareina Yee: Despite all of that optimism, it's hard not to see an underbelly to all of this. There are concerns. So with all the attention to the bold, profound amount of technological change—and we're just scratching the surface—how do you

think about business leaders being bold and acting responsibly at the same time?

Reid Hoffman: I think the right overall mindset is going into the future with some speed, resolve, and understanding that there will be some bumps and challenges. But transitions are very difficult. So don't overly worry about the laundry list of concerns in the press, because they're being dynamically fixed. There will be errors, and nothing will be perfect, but the way you learn is to deploy, learn, and fix—things all businesspeople understand.

But you also have to understand the human transitions. How will your workforce learn new ways to work? How are your customers going to learn new ways to interface with your company, new ways to learn about a service, and new ways to buy or otherwise engage?

All of this requires a compassionate mindset. But that doesn't mean being soft and not driving hard into the future and breaking some eggs. Being compassionate means caring about the human experience, the human transitions, and the human costs involved in all this. It also means having human well-being as your ultimate goal, both in the now, in the transitional, and in the future.

An iterative, intelligent, conversational assistant to improve thinking

Lareina Yee: Reid, as best I can tell from this conversation, you have four or five amazing AI assistants helping your personal productivity, and I assume Pi is the leading assistant. What have all of these assistants helped you do differently? How are you working differently as a result?

Reid Hoffman: Well, a ton. I've been thinking about writing an essay titled something like "Take the Red Pill," from *The Matrix*.

Lareina Yee: I love that.

Reid Hoffman: For example, you're doing a podcast on the future of AI for corporations and the workplace. So give me the strongest bull case of

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how AI will change things, then give me the counterargument. Then examine both and use that as a lens for decision making. Because AI can actually do both for you.

And that helps you do a kind of thesis synthesis. One of the useful things in prompting these agents is learning how to sharpen your prompt directing. If you're a brand marketing expert trying to figure out a branding question for a portfolio company, one of the things you can do is go to Bing Chat, GPT-4, Pi, et cetera.

Make the positive case for a particular branding campaign, and then make the counterclaim. And by the way, you won't necessarily get an answer. But one of the things these things do is help you think, so you now have an iterative assistant. It's more like the speed of bouncing something off an intelligent, conversational companion to help you think better.

Lareina Yee: I love the ability to debate with my friend Claude, my friend Gemini, and my friend Pi. It helps advance my thinking. And it's a different way of processing and iterating information. We've spent a lot of time talking about technology. But at the end of the day, we're really talking about people. So let me ask two nontechnology questions. One, what's your favorite hobby that doesn't involve technology?

Reid Hoffman: One thing I've done a little bit of and will probably do a lot more of in the future is designing board games. Part of the attraction lies in the patterns of interaction when playing games together, which is one way we can learn about ourselves, learn about each other, and form relationships.

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It's basically practicing certain IQ and EQ skills as we're playing. So it would be interesting to create games that helped stimulate patterns of thinking around entrepreneurship, creativity, and innovation, while learning about each other.

Lareina Yee: Finally, if you go way back, you were a Marshall Scholar at Oxford, where you studied philosophy. If you were at Oxford today, what would you study?

Reid Hoffman: I'd probably study philosophy again because it's so important. It's about being able to establish and understand very crisp theses about your theory of the game, your theory of human nature, what's going on, and being able to understand what's possible, versus what is or what has been.

It's thinking about a set of mental tools that span many different challenges. If I couldn't do philosophy again, I'd probably study the history of science and try to understand the patterns of its evolution, on a similar basis.

Lareina Yee: Reid, thank you so much for the chat. I think we'll all be thinking about our agent superhero team that helps us with our work and our personal productivity.

Reid Hoffman: Lareina, awesome to talk with you as always.