



[Q&A](#)

New Book Explores How AI and Automation Will Reshape the Economy

By [Meghan Hall](#) | May 3, 2023

In his latest book, MIT professor Yossi Sheffi, director of the MIT Center for Transportation and Logistics, discusses how supply chains are evolving, as well as how AI, automation, and other emerging technologies could reshape the economy.

[*The Magic Conveyor Belt: Supply Chains, AI, and the Future of Work*](#) was released in late March. We spoke to Sheffi about job losses and job creation; looked back at a few historical scenarios; and got his advice on what professionals should be doing to stay ahead of the curve.

Yossi Sheffi, director of the MIT Center for Transportation and Logistics

Read highlights from the interview below.

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Hall: Talk to me about why you decided to write *The Magic Conveyor Belt*.



Sheffi: I realized that — just like now — throughout history and various industrial revolutions, there have always been a fear of job losses... or salary losses or reduced salary, as technology was coming to the fore. That technology could have been the mechanization of looms in 17th and 18th century England, or it could be the Ford assembly line. If you look at history, yes, some jobs were lost. But by and large, many more jobs were created.

People think that, “Okay, it’s different now — AI is coming to the fore to take all our jobs.” I don’t think so. ...I don’t think it will be different.

Hall: Thinking about the historical creation of jobs by technology, what kind of jobs do you think are going to emerge with the advent of generative AI?

Sheffi: I tried to predict like everybody else, but the true answer is that nobody knows.

It’s hard to imagine what new jobs will [arise], but I think that many jobs will become better because there will be less drudgery in them, because the AI will take up most of the drudgery.

When Ford started the assembly line, the number of workers at Ford increased from a few hundred to over 150,000, but the number of jobs that were created were actually in the tens of millions. Why? Because cars became more affordable, and we started building highways, started building motels, started building restaurants all over.

If you think about containerization, it reduced the cost of loading a ship by almost a factor of 10. Yes, some longshoremen may have lost their jobs. But there are literally millions of jobs around the world that were created because globalization took place. ...

It’s hard to imagine what new jobs will [arise], but I think that many jobs will become better because there will be less drudgery in them, because the AI will take up most of the drudgery. I think at the end of the day, it’s a tool, like anything else. ... It means that people will have to focus on creative stuff more than on the mundane. But [first] people need to know better how to use the tool — to specify a query, discuss it [conversationally], fix it when it goes awry. Most importantly, is being able to look at it with suspicion.

Sheffi’s ninth book, *The Magic Conveyor Belt*

Hall: What do you think are some skills or tools that people should be learning and doing in the present to make sure that they'll be up to speed, even a few months from now?

Sheffi: First of all, use it, play with it, just find out what it can do.

It's only a matter of time before there start to be [in-depth] online instructions for [generative AI]. The technology is getting better and better at breakneck speed.

What people should be doing is, first of all, understanding the technology as much as possible. Play with it, see what it does, see when it makes mistakes. Start understanding the parameters of what makes sense and what doesn't make sense.

Hall: What do you think the challenges coming up for AI might look like?

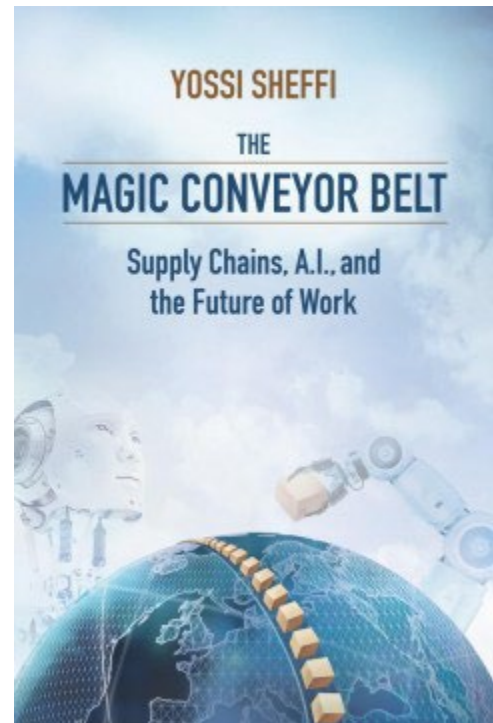
Sheffi: The machines are, even today with all the hoopla, pretty limited. With GPT-4, which is the most advanced, you can analyze a document that has a few thousand words, but you cannot analyze one of my books — it's way too big. ...

The hurdle is computation. [Generative AI] requires enormous computational capabilities. And when you go from GPT-3 to GPT-4, it's a much, much larger computational burden. So, it's not clear that we can continue adding to the size, but it is getting better.

Hall: We've talked about how AI could impact jobs, but what are some of the technologies that you've experimented with or have seen strong use cases for?

Sheffi: There are many [use cases] in supply chain — they start with robotics in warehouses. The way robots run around and don't bump into each other and decide what the right thing to do is, it's a huge number of calculations that are involved. One huge application of AI is robotics infused with AI. ...

There are many other examples [in other industries, including] insurance. If you have an accident in your car, you have to take a picture — you never deal with a human. You take the picture, you tell them what's going on, and the AI can interpret the picture and assess the damage. ... [The company] will send you to some garage to fix it, and tell you how much it's going to cost, all with no human involvement. Being able to take a picture and say, 'Okay, this is the type of car; this is the type of damage; this is what it takes to fix it,' that's AI at its best. ... But it's not really intelligence; it's a simulation of a huge database and being able to make sense out of it — it's not just making it out of whole cloth.



Something that is a little problematic now is credit — that when banks decide to give credit, they use a lot of AI, because they look at a person and they decide to take a look at the whole history. They can look at their whole life on social media, in papers, all kinds of databases. This is where we start having a morality problem — are these going to be biased against certain underrepresented minorities? That starts to be an issue. ... I don't know how worried people are about AI being biased, but there's a lot of work to make sure that it's not.