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Up to 50% of Jobs Could Disappear, Have You Braced for It?

Analysis by Dr. Joseph Mercola ✔ Fact Checked | October 01, 2023

STORY AT-A-GLANCE

- Kai-Fu Lee's book, "AI Superpowers: China, and Silicon Valley, and the New World Order," discusses the implications of artificial intelligence, to help people make wiser educational and career choices in coming decades
- While AI can enhance and work symbiotically with a number of professions, such as lawyers, doctors, government officials, CEOs and scientists, many jobs will become obsolete as AI starts beating human performance
- Telemarketing jobs, loan officers, customer service, fruit and berry pickers, dishwashers, drivers, assembly line inspectors and many others will eventually become a thing of the past
- In many ways, the Chinese are head and neck ahead of Silicon Valley. For example, WeChat has the functionality of Facebook, iMessage, Uber, Expedia, Evite, Instagram, Skype, PayPal, Grubhub, Amazon, LimeBike and WebMD, all in one smartphone app
- AI works by looking at huge amounts of data, for example, purchase patterns on Amazon, to learn your preferences and habits, plus audio and video data, paired with facial and speech recognition. All this user data will eventually lead to the creation of autonomous robots and vehicles

Editor's Note: This article is a reprint. It was originally published January 5, 2019.

Kai-Fu Lee, Ph.D., a leading expert on artificial intelligence (AI), a venture capitalist and author of "AI Superpowers: China, Silicon Valley, and the New World Order," has spent

decades working for tech giants such as Apple, Microsoft and Google, both in China and Silicon Valley. He got his Ph.D. from Carnegie Mellon University, one of the most prestigious AI institutions in the U.S., if not the world.

His professional achievements came at a price, however. In 2013, Lee came down with Stage 4 lymphoma. While the focus of this interview is the impact of AI, his health journey is an interesting testimony to what can happen if you work too hard.

> *"I have been a workaholic basically my whole life, until my illness,"* Lee says. *"Workaholic to such an extent that when I was the president of Google China, I would work 100-hour weeks. Not only that, I would automatically wake up twice a night to answer my emails, as I had to talk to the people at headquarters with the time zone difference.*
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> *But, I think, inside me, I also wanted to set an example so that my team thinks that [since] I work really hard, they would too. Once, I got a surgery and I had a special computer made so I could work while lying in bed, recovering from my surgery …*
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> *Obviously, we don't really know what the reasons are, but I was diagnosed with Stage 4 lymphoma. When I found out, it really changed my whole life. First, there's the normal stage of denial, 'Why me?' And then finally, acceptance.*
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> *Once I accepted, I started looking back on my life and realized, first, that my lifestyle probably led to this illness … **Lack of sleep**, too much stress, not eating healthily … But more importantly, I realized that … I was singularly focused on my work and accomplishments, and really overlooked all the other things that were more important.*
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> *When I realized I may only have a few hundred days to live, working hard didn't mean anything to me. What was important was giving love back to the people I love, spending time with them and, of course, regretting that I haven't lived that way."*

Regrets of the Dying

During his illness, he read Bronnie Ware's book, "The Top Five Regrets of the Dying: A Life Transformed by the Dearly Departing." As a nurse, she was present during the last days of some 2,000 people. Before they died, she would ask them about their regrets. One of the top regrets was working too hard.

The No. 1 regret was not spending more time with the people they loved. Another important regret was not doing things they felt really passionate about, listening to and following instead the expectations of others. "That changed my outlook," Lee says, who is now in remission and has changed his priorities in life.

When asked what drives this incredible work ethic in China — especially in the startup environment — Lee explains:

> *"Many young Chinese entrepreneurs, their families have been poor for 10 or 20 generations. They're an only child. Their two parents and their grandparents have only this one child or grandchild to look forward to, to improving the lives of the entire family. The pressure is on and the expectations are high.*
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> *Usually, they got into good schools, so even higher expectations. They gave up high-salary jobs to do this risky startup … To give you an example, there's one startup that advertises a very good work-life balance.*
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> *'Join us and you don't have to work as hard as your current startup, because we only work 9-9-6.' What that means is 9 a.m. to 9 p.m., six days a week. In many startups, it's more like 10-12-7. That is 10 a.m. to midnight, seven days a week …*
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> *There's not even a lunch or a dinner break. You see people eating in front of their computers. This is 14 hours a day, seven days a week. It's about 100 hours. It is really crazed like that."*

Sinovation Ventures

Lee's book, "AI Superpowers: China, Silicon Valley, and the New World Order," helps us understand the potential implications of AI, which is clearly one of the hottest topics in the tech world. Most major corporations are investing heavily in this technology.

His own venture capital firm, Sinovation Ventures, which started about 10 years ago, has since funded 15 so-called "unicorns" — companies that have grown in value to over $1 billion.

> *"Our funds are among the best-performing. One of the reasons there are so many unicorns is our knowledge about technology and AI. My own AI Ph.D. and my partners' technical backgrounds allowed us to really pick out the best technical entrepreneurs and then help them with the business side.*
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> *I mean we invested in these companies when they were $10 million to $30 million in valuation. Now, they are $1 billion to $15 billion. Our investments made anywhere between 50 to 100 times for these 15 companies. Obviously, there are other companies that failed.*
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> *But even considering that, just these companies have made us very, very well-performing. Five of these companies are core AI companies. The other 10 are non-AI companies, but they used AI, so we were able to observe the power of AI and how it was transforming all kinds of usages and applications,"* Lee says.

Lee's Professional History

Prior to Sinovation Ventures, Lee was one of the leading AI researchers in the world, and was responsible for establishing Google China. His Ph.D. thesis was one of the earliest on speech recognition and machine learning.

After his Ph.D., he led the AI, graphics and multimedia groups at Apple before moving on to Silicon Graphics, Inc. (SGI), followed by Microsoft, where he was put in charge of starting Microsoft's research lab in China, where about 5,000 people have received AI training.

"Basically, the chief technology officers (CTOs) of all the top Chinese companies, maybe 70% were trained by us in Microsoft Research," he says. After that, he worked with Bill Gates in headquarters for five years before being hired to establish Google China.

> *"I found that a lot of my smartest people were leaving Google China to start their own companies. I felt the entrepreneurial spirit was going to be phenomenal, and I wanted to join that,"* Lee says.
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> *"So, I left in 2009, after which, unfortunately, Google also decided to pull out. That was my career history. For the past nine to 10 years, I've been doing investments in China, primarily in AI and technologies."*

China's Technological Advantage

In many ways — particularly when it comes to implementation — the Chinese are head and neck ahead of Silicon Valley. For example, WeChat has the functionality of Facebook, iMessage, Uber, Expedia, Evite, Instagram, Skype, PayPal, Grubhub, Amazon, LimeBike and WebMD, all in one smartphone app. About 75% of Lee's own cellphone usage is done through WeChat.

> *"I am on everything. I'm on Facebook. I'm on Twitter. I use Google. I use YouTube and other Chinese apps. This is 75% for me. That means a couple of things. First, that the Chinese companies, in particular Tencent, which build WeChat, built an incredible platform that … accumulates a tremendous amount of user data.*
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> *If you think Facebook has a lot of your data, WeChat has a lot more. But it's not all their data. They partner with people. They partner with the food delivery, the bike rental, the Uber of China and other companies. And also, people in China use the mobile phone to pay. There's almost no cash in China anymore.*
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> *People just pay with WeChat or Alipay. Those are the two choices. If you go to a farmers market, a convenience store or even the vendor in the street, they*

would be holding up a sign that says, "Scan me," not, "Give me money." Scan is the way in which you use your mobile app, WeChat, to pay."

AI is an incredibly powerful algorithm that thrives on data. Data is to AI what gasoline is to cars. As explained by Lee, the AI works differently from the human brain. It simply looks at huge amounts of data, for example, purchase patterns on Amazon, which allows it to learn your preferences, and then provide you with more things that match your purchase patterns.

The same thing goes for patterns of what you read online or like on Facebook. AI also works with data streams from audio and video, and uses facial and speech recognition. All this data will eventually lead to the creation of autonomous robots and vehicles, Lee says.

"All these things apply to internet, business, including banking, insurance, education, retail, manufacturing and health care medicine, as well as robotics and autonomous vehicles.

All these AI applications will come out in the next five to 15 years. The internet ones are already out, but the other ones are coming soon. China's advantage is having that ocean of data. In the age of AI, data is the new oil, and China is the new Saudi Arabia. That is China's advantage.

Now, in terms of research, core research competence, U.S. is still much stronger. Maybe 10 times stronger. But the academics generally publish papers and move on. Entrepreneurs in China, the U.S. and anywhere can use that. Usually, it's open-sourced, without internet protocol (IP) protection or patents, because university professors just want to write papers ...

[But] China is better at taking all this data and working 100 hours a week to monetize the data to create applications … that leverage the AI to build the applications that change the banking, insurance and eventually the medical industry."

China Leads Mobile Payments Trend

The mobile payment data is incredibly important, Lee says. Few Chinese carry cash or even credit cards anymore. Most transactions, both online and offline, are made by mobile phone. The total transaction amount for 2017 was $17 trillion, which is greater than China's entire gross domestic product.

There are about 800 million Chinese on the internet, and of those, about 600 million use mobile payment through WeChat Pay or Alipay. In WeChat pay, you can pay anyone, not just merchants, and there are no surcharges or commissions of any kind. Lee explains the implications of this financial data:

> *"This is the highest-quality data ever. If you think about, let's say, a doctor's diagnosis of a patient; well, the doctor could have made a mistake. If you think about a loan officer's decision to make a loan, the loan officer may have made a mistake.*
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> *You think about you're browsing a page on Amazon, maybe you have no real interest in the product, it was just-for-fun browsing. But if you pay for something, that is a definite transaction, and that carries a lot of value. Of this type of data, Chinese companies have 50 times more than the U.S.*
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> *Technologies [are] built on top of this data, such as targeted loans that you can borrow money instantly, such as insurance policy design based on your usage, such as recommendations on how you should invest your money, and so on and so forth.*
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> *And also, totally online banking and financial transactions. Once you pay online, you might as well save online. You might as well invest online. You might as well buy insurance online.*
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> *It's making a total disruption over a period of time for all things financial, because once it's cashless and merely electronic transactions, then everything goes electronic. Then everybody has data, and then everybody has AI. This is*

what propels China forward with the AI applications. U.S. leads in research, but China really leads in application."

The Future of Autonomous Vehicles

One area where the U.S. is in the lead is in autonomous vehicles. However, the question is whether America will stay ahead when it comes to implementation. The Chinese government is already building infrastructure that might allow Chinese companies to launch autonomous vehicles faster.

"For example, highways that will talk to the cars, cities that have new roads paved, two levels of downtown, one level for humans to walk, one level for cars to avoid hitting people," Lee says.

"China is watching [reports of autonomous vehicle] incidents and saying, 'Well, our companies are behind. Why don't we build roads that will facilitate companies to get their product going, even though they're not as good as the American counterparts? But we make it safer by moving away the pedestrians.'

Now, it must cost tens or hundreds of billions of dollars to redo a two-layered downtown for however many cities that try it, but that's the kind of effort the Chinese government is doing … The government is giving encouragement and building infrastructure and subsidies to help China become a leader in the world of AI."

Setting Priorities

While Lee still admits to working about 60 hours a week, he's reprioritized a number of areas of his life, placing emphasis on family time, stress relief, sleep and a healthy diet.

"It doesn't mean I don't work hard. But it's a matter of putting things first. It's not a matter of reducing my work hours and giving it to my family. Family don't just

want hours. They want to see that you genuinely care. When my daughters have their vacation, I take my vacation to match theirs, not the other way around.

My wife travels with me wherever we go. When she travels with me and doesn't have something to do, I come back at 2 or 3 in the afternoon and take her somewhere.

This is one of the good things about being a venture capitalist and having my own company — I need to put in some hours, but I can put it in whenever I want. It's not a 9-to-5 job. I can basically put my family's needs first, and then the work later …"

After his lymphoma diagnosis, Lee spent time with a brilliant Buddhist monk who warned him about being addicted to fame and riches.

"He said, 'You don't worry about AI becoming humans, but I worry about humans becoming machines.' He said, 'What you really should do is think about what matters to the world. Give love back. Give knowledge back. Give wisdom back. You're at an age where you don't have to prove anything anymore,'" Lee says.

The Implications of AI for Education and Career Choices

The reason he gives for writing his book is to inform people about coming changes so they can make wiser choices in terms of education and career building, as jobs will inevitably be lost as AI starts beating human performance.

While AI can enhance and work symbiotically with a number of professions, such as lawyers, doctors, government officials, CEOs and scientists, jobs such as telemarketing, loan officers, customer service, fruit and berry pickers, dishwashers, drivers and assembly line inspectors will all eventually become a thing of the past.

"I think it's important for people to know, to start moving out of their routine jobs and for corporations to realize that they have a responsibility to take care of their people, even if they plan to use AI to displace them," Lee says. *"For*

education, parents have to know that you don't educate your kids to go after routine jobs.

What is a routine job? I think most doctor jobs are obviously nonroutine, but some large components of some doctor jobs are routine [such as] radiology and pathology. Not today, but in 15 years, AI would do the diagnosis and reading part of their job, which is a substantial portion.

I think parents need to understand. People going to medical school should think about, 'What is the most sustainable medical job?' Probably in research, and 'What are the least sustainable?' Probably radiology and pathology. These are important messages for people …

The content I really want to get across is we, as employers, parents, people who run companies, employees, really have to plan for ourselves in light of AI coming over to take over anywhere between 30 to 50% of the jobs in the next 15 to 25 years."

More Information

To learn more about AI and what its application means for the future, be sure to pick up a copy of Lee's book, "**AI Superpowers: China, Silicon Valley, and the New World Order**." It's a fascinating read.

"I think the main points really are that China and U.S. are the two giant AI engines that will create this technology revolution that is comparable to the industrial revolution, but probably even faster because it doesn't require an electrical grid to be built," Lee says.

"AI is working today. It, runs as software. That AI can create huge amounts of wealth for humanity, and reduce poverty and hunger. But at the same time, AI also has a lot of issues, including privacy, security, wealth, inequality and job displacements. My book is a summary of all of the above."