

DANIEL BURRUS'

# TECHNO TRENDS

THE BIG IDEAS THAT ARE  
CHANGING EVERYTHING

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## Stop Being Afraid of the AI Future

By Daniel Burrus, CEO of Burrus Research

AI systems are everywhere—on the Internet, in your pocket, in video games, but never have so many important people been so worried about them.

“The development of full artificial intelligence could spell the end of the human race.” That wasn’t some anti-technology Luddite. That was Stephen Hawking—one of the greatest physicists in history—speaking to the BBC.

Now listen to what Elon Musk, founder of Tesla and SpaceX, said. He called artificial intelligence “our biggest existential threat” when he was speaking at MIT. He was quoted in the Guardian as saying, “With artificial intelligence we are summoning the demon. In all those stories where there’s the guy with the pentagram and the holy water, it’s like—yeah, he’s sure he can control the demon. Doesn’t work out.”

By the way, Elon Musk is still investing in AI despite his worries. Bill Gates also recently warned about the dangers of AI. When doing a Reddit AMA (Ask Me Anything), he said, “I am in the camp that is concerned about super intelligence,” Gates wrote. “First, the machines will do a lot of jobs for us and not be super intelligent. That should be positive if we manage it well. A few decades after that, though, the intelligence is strong enough to be a concern.”

These guys have changed the world. They’ve been very right about some very important trends in science and technology—PC, space travel, physics—but could they be right about the dangers of AI? Will computers take over, killing us off or enslaving us? Will we someday

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# Stop Being Afraid of the AI Future

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have to ban AI systems for the good of humanity? Could investing in AI mean investing in the end of life as we know it?

It's not only the tech world that's worried about artificial intelligence. Just look at your Netflix queue. From The Matrix, to the Terminator movies, 2001: A Space Odyssey to Transcendence, science fiction is rife with evil artificial intelligence that enslaves or destroys humanity.

## Which Movie are you Watching?

If we're going to be successful in predicting the future, we're going to have to make our predictions based on science, not science fiction. This is why I talk so often about the difference between Hard Trends and Soft Trends. Hard Trends are predictions about things that we know are going to happen. Soft Trends, on the other hand, are based on what we think might happen.

Likewise, it's important to remember the difference between Hard and Soft Assumptions. A Hard Assumption is when we have "good data" that supports the assumption; it's based on real, solid data. A Soft Assumption is not based on research or data, but instead is based on gut-level instinct.

When you look carefully at the predictions about Artificial Intelligence from Stephen Hawking, Elon Musk, and Bill Gates, you realize that they're not basing their predictions on actual data. They're afraid of AI getting out of control and taking over the world. But there's no trend of AI systems ever killing people or enslaving them. These men may be geniuses, but they're making Soft Assumptions about the future, without any real basis in fact.

Here's the main point I want to make: the only way that AI systems can hurt us is if we let them. People will always have strong overrides to control their machines. We should use Hard Trends to see where AI is going and make Hard Assumptions based on real evidence. We need to make predictions based on what's really happening rather than some nightmare we've imagined.

## Exponential Changes

So what kind of Hard Assumptions can we make about Artificial Intelligence? We have several laws in computing that we can look at to see where AI development will go.

First is the Law of Processing Power. According to Moore's Law, processing power doubles every 18 months. Think about the last computer you bought. It was most likely smaller than the one you bought before that, and faster too. The smartphone you bought last year was probably faster than the computer you bought ten years ago.

Similar to this is the Law of Digital Storage, which says that digital storage capacity doubles every 18 months as well. Likewise, the Law of Bandwidth states that bandwidth will increase and get cheaper in the same time frame.

These laws describe Exponential Changes, changes that accelerate at faster and faster rates, rather than just increasing at the same rate. All of this means that AI isn't just improving, it's improving faster every day.

## AI is in Your Pocket

And where AI is going is already amazing. Many of you are carrying AI systems in your pockets, like Siri and Google Now. They use the processing power in modern smartphones to analyze natural language, and mobile connectivity to tap into vast amounts of storage.

Remember Watson, the IBM supercomputer that won on “Jeopardy”? Watson has been very busy since then. Watson learned to cook by plowing through Bon Appetit magazine’s nearly 9,000 recipes. Google’s been famously working on integrating AI systems with cars, to develop safer, more efficient self-driving vehicles.

OK, what can AI do for us beside playing games or looking up recipes? Here’s another Hard Trend: thanks to improvements in radio-frequency identification technology (RFID), and the spread of wireless internet, we are on the brink of an AI revolution. I’m talking about the rise of the Internet of Things. Right now, you have a smartphone, and you might have a “smart” thermostat. But soon you’re going to have a whole integrated smart home, where all the devices can communicate with one another and transmit data back and forth. Your home will be an AI system. And with all that data flying back and forth, we’ll need even more technology to make sense of it.

### Life-Saving Robots

Once you realize that fears about AI taking over the world are in the same league as monsters under the bed, the possibilities for AI are endless.

Instead of Siri just telling you the weather, she might help you choose which stocks to buy—or what to stock in your store. If Watson was working in your restaurant, it could track the ingredients in your fridge and then suggest new dishes. The point is, combined with the Internet of Things, AI will allow business owners and managers make smarter, faster, less risky predictions.

Here’s another trend to think about: traffic accidents

are one of the most common causes of death in the US. Self-driving cars with AI could save thousands of lives every year. So much for the Terminator. But there’s a business benefit, too. Self-driving cars will use fuel much more efficiently and find better routes. If you’re involved in any kind of transport industry, that turns into huge savings. You’ll still need your human drivers, but you’ll keeping them and your cargo safer—and delivering it more efficiently—with the help of AI.

### That Human Touch

The real reason not to fear AI is that, with all its advances, there are some things it will never be able to do. Our self-driving pizza delivery service will still need a person to bring the pizza to your door—and smile. Restaurants will still need chefs to build menus. Your business will still need you to make the right decisions to keep it growing.

AI can help optimise business processes, but at the end of the day, it’s human beings who have to decide whether to accept or reject the computer’s insights.

The real Hard Trend is that no matter how smart AI becomes, there will always be a person behind it. Who do you want that person to be? You, or someone else?

Because if you can’t imagine the ways AI can help your industry, then your competitors definitely will. You can bet they’re thinking about the future while you’re still watching The Matrix. That’s why you must look at where AI technology is going and harness it, rather than letting your fears stop you.



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