

Artificial Intelligence Changes the World

In this issue, the New World of Video column takes a break from video to address a trend that will soon affect all aspects of life – including video services.

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2017 was quite a year. The sweeping changes initiated then will evolve faster in 2018. Some developments will continue to baffle us. On the bright side are technology developments such as artificial intelligence (AI), robotics, driverless vehicles, phones with better screens, thinner and better TVs, advanced wearables and drones that do more than just fly around like remote-control model planes. Each device will have its own “wow” factor.

Of course, all these changes have scary sides, too. Just imagine robots taking jobs away from workers (as is already happening in manufacturing), cars and trucks traveling down busy highways without human hands on the steering wheels, and robots picking vegetables and fruit 24/7, rain or shine.

The news cycle is driven by the “next big thing,” and AI fits that model perfectly. “Fake news” and the confusion and uncertainty it sows must be replaced by information and achievements. The hype, hot air and scary stories will fall by the wayside as progress is made.

Computers that can beat the latest chess master or win big bucks on a TV game show have been around for some time. That kind of story is easily forgotten and falls into the novelty category. Now, machine learning and routine task applications will accelerate people’s exposure to robotics. Using devices such as the popular Alexa brand of personal assistant will continue to make people more comfortable with and trusting of machines that can do all sorts of tasks for them.

Harry Shum, executive vice president of Microsoft’s artificial intelligence and research group, says, “AI is improving tech products, and the real challenge is making sure it does so in a way that people trust.” Shum also states, “The key is a strong code of ethics coupled with transparency, which are two areas of focus for Microsoft.”

An encouraging sign is that ethical considerations will play a key part in the AI machine rollout. Ethical issues need to be front and center early on, before organizations can spread hype and hot air.

Will people have concerns about technical advancements that look as if they could upend our lives? Is some form of regulation needed? The answer is “Yes,” and progress this dramatic has, throughout history, generated a measure of

doubt and worry. Remember that China and a number of other countries, friend and foe alike, are coping with the same issues.

MACHINE LEARNING WILL CHANGE EVERYTHING

2018 promises to be a big year for machine learning, with plenty of headlines. Panasonic unveiled a new robot that can pick tomatoes from a vine as fast as a human worker can. Technology developer Nikkei Technology says the robot can pick up to 10 tomatoes per minute. This task is accomplished using a 3D camera plus AI to map the location of tomatoes ripe enough to pick based on their shape and color and then execute complex movements for each one. The robots will move around the tomato fields on a rail system without any human intervention.

MIT’s Tangible Media Lab is testing ChainFORM robots, which have a “shape changing interface using rich sensing and actuation capability.” Think of it “like peeling off just the right amount of duct tape,” advises David Grossman of Popular Mechanics. This interface uses a lot of little robots that can be combined and customized in versatile ways, rather than one big machine. ChainFORM can resemble a caterpillar, and other groups have begun to resemble swarms of spiders.

When it comes to artificial intelligence and jobs, many forecasts are grim. AI will do to white-collar workers what mechanization did to factory workers over the last few decades. However, it can also fight poverty and help people economically.

For example, AI can help match people to the good jobs going unfilled. This is the kind of matching skill AI is known for. When applied to education, AI “tutors” can match content to student needs and track the effect on performance. And it can identify solutions to chronic dependence with job training that helps people get into the modern age. ❖

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