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Creating a Smarter Robot

| An Interview with Professor Goldie Nejat
Robotics Engineer, University of Toronto

What is the state of robotics research?

What we're doing is we're working on robots to pretty much help society. And these are robots that can help people in the workplace or even at home. One of our main applications, for example, is healthcare robots. So designing robots to help the elderly, to promote gaining at home, or help them in long-term care facilities, to provide cognitive interventions. The idea is, how can we help people to improve quality of life?

How can robots help society?

The most, I think, challenging aspect in robotics is, you know, designing the artificial intelligence, and having a robot be able to interact without human intervention. So a lot of robots have been designed that are tele-operated, some are semi-autonomous, and the idea is if we want to kind of integrate a lot of different robots, we're looking at how much can we push the envelope into autonomy. There are a lot of firsts that we get to address like being first in the field to do some of this, so we learn a lot about humans, as we are designing these robots to interact with humans.

What is challenging in your research?

So we're already seeing a few robotic systems being developed and commercialized. You know, a lot of robots can do single tasks, vacuum robots, for example. And so in kind of the next I'd say 5 to 10 years, we're going to see a boom, and robotics technology that's coming out, and I'm hoping in that range we're also going to be seeing robots that do multiple things. So they can clean your house, but at the same time they can, you know, load the dishwasher or do your laundry as well. The idea is as our baby boomers are retiring, which they're already started doing, so in the next few decades as they do retire and stay home, we have the technology to help them to do so. We'll have these robots that can do multiple tasks and interact with multiple people.