URL: https://stvp.stanford.edu/clips/safety-and-self-driving-cars

Zoox Co-Founder and CTO Jesse Levinson describes how autonomous vehicles navigate, and how much faster they can perceive and react to problems on the road. The computer scientist earned his Ph.D. at Stanford University in 2007 under entrepreneur and educator Sebastian Thrun, the first director of Google's self-driving car program. "The fact is, 40,000 Americans are dying every year in car accidents," Levinson explains.

Transcript

- The fact is, 40,000 Americans are dying every year in car accidents, more than a million are getting injured.. Globally, you have over a million people dying.. When that's your starting point, right, there's a lot of ways to improve that technology.. The self driving vehicles have 360 degree sensing coverage.. They're able to detect, not only with cameras to see sort of visually what things are, but they also have depth sensing.. So, you might have radar, you might have LITO technologies can see where things are in 3D space.. When you combine this 3D reconstruction that you can do with the semantic understanding you get from your cameras, you actually do understand what's going on around you and you can react to it much, much faster than a human can.. In those situations where somebody else is doing something strange, somebody's making a weird turn, or they're speeding, or a person's jumping out and they're not paying attention, this type of technology will be able to react significantly, significantly faster than a human would.. It also won't make stupid mistakes the same way people do, because you know, it's not texting or drunk.. (laughing) Although there are very, very rare circumstances where some of this, sort of, emotional stuff might come into play, I think we can get rid of probably around 95% of accidents just by being attentive and not doing stupid things..

Then for that last 5%, then you start looking at really advanced AI and do you understand people's gestures and emotions, and that's a bit farther out, but I think we can make a decent order of magnitude improvement before we get to that level of AI...