

How Will Self-Driving Cars Learn to Make Life-and-Death Choices?

Carmakers are grappling with the dilemmas AI will face on the road

By Brett Berk, *The Wall Street Journal* Aug. 28, 2024

What will the roadway scruples of AI look like?

Artificial intelligence will hold sway on our roadways as we edge closer to fully self-driving cars—a shift that many car-makers say will make driving safer.

David Margines, director of product management at Waymo, Alphabet's self-driving subsidiary, says putting AI in charge precludes many of the factors that cause accidents, such as speeding, exhaustion, distraction and intoxication—preventing problems before they occur.

Others see different considerations. “The expectations for autonomous vehicles are much higher than for individuals,” says Melissa Cefkin, an anthropologist and lecturer in the department of general engineering at Santa Clara University who has worked with Nissan and Waymo on the interaction between humans and autonomous vehicles. “When an individual has an incident, we can say, ‘They’re only human. They tried their best. It was an accident,’ ” she says. “We’re not going to be as forgiving with a company, and we probably shouldn’t be.”

Here are some of the top questions engineers, programmers and bioethicists are grappling with as the world of AI-driven vehicles approaches.

To avoid hitting pedestrians, autonomous vehicles use an array of AI-enabled features: perception, classification, prediction, path planning. But it can still be a challenge to distinguish between humans and humanoid delivery robots, retail mannequins or even street-level ads featuring images of people.

Some envision the development of vehicle-to-pedestrian communications. For instance, a cellphone's broadcasting ping could signal a human presence to an autonomous vehicle's AI. But this brings potential concerns about privacy and personal liberty—and a disadvantage for people without phones.

As regards animal values, in a collision, moose and deer pose an existential risk to vehicles and their occupants. Smaller animals such as hedgehogs, or cats and dogs, present less of a risk. Is it morally acceptable for AI to weigh the lives of these animals differently?

For large animals, Waymo gives priority to “reducing injury-causing potential” for humans, through avoidance maneuvers, Margines says. When it comes to small animals, such as chipmunks and birds, Waymo's AI “recognizes that braking or taking evasive action for some classes of foreign objects can be dangerous in and of itself,” he says. But how might the equation differ for animals that might be pets?

Finally, is taking the fastest route the core metric that should guide autonomous vehicles, or are other factors just as relevant? Focusing on getting to the destination quickly would allow self-driving ride-share vehicles to make more trips and more profit, but might result in more danger. Giving priority to safety alone could slow and snarl traffic. And what about choosing routes that let passengers enjoy the journey?

Such decisions “become ethical when you think about whose interests are you serving,” Cefkin says. “Passengers? Robo-taxi services? Other roadway users?”