

Israeli company developing system to allow cars to learn how to drive through experience

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(Tech Xplore)—Israel-based Mobileye has announced plans to build a self-driving system for cars that will be based on experiential learning—in contrast to most systems being tested today, which are directly programmed to drive. This means that programmers must account for every type of road situation a car may encounter. MIT's Technology Review [spoke](#) with Amnon Shashua, CTO and cofounder of the technology firm to learn more about the initiative.

Mobileye has been in the news of late for another reason—its system was the one being used by the Tesla vehicle that was involved in a [car crash](#) in Florida recently—the incident is still under investigation by the NHTSA. Tesla publicly blamed Mobileye, and because of that, a rift developed between the companies, which are now no longer partners.

Shashua does not believe that will harm the company's new initiative, though—building a system based on [neural networking](#), which, if all goes according to plan, will allow a car or truck to learn how to drive in much the same way that humans do. First, by observing someone else doing it, and then by practicing (which the company calls reinforcement learning).

This approach allows for learning all aspects of driving the way that people do as they grow older—by initially recognizing road signs, for example, or seeing the differences between cars, buildings, pedestrians or other objects—and later by coming to understand things like braking distance, road handling and the habits of other drivers on the road. But there is one catch to creating such a system—neural networks learn by example, which means they need a lot of examples. The company has therefore reached out to all of the major car makers asking them to share self-driving vehicle data to feed to the network to help it learn. Shashua maintains that it would make sense for the car companies, because it might result in a product they could use in the future to sell self-driving vehicles to consumers. He revealed that his company is in the process of forging some alliances, the first of which will be with Volkswagen.

If Shashua does manage to secure the needed data, his systems would still need to be taught, at least initially, by engaging with driving simulators—after that, all he and his company would have to do is show that such a system would really work and that it would be better than the current approach.

More information: www.mobileye.com/

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