Business Reporter: Training autonomous vehicles to read pedestrian intent

A new approach to artificial intelligence (AI) can improve the public sentiment of self-driving vehicles and help make them safer

LONDON, UNITED KINGDOM, December 14, 2021 /EINPresswire.com/ -- In a video published on Business Reporter, Sam Anthony, CTO, and Co-Founder, Perceptive Automata explains why a new approach to artificial intelligence is essential to accelerating the development and improving the perception of autonomous vehicles (AVs). Although an awe-inspiring amount of sensor technology goes into an autonomous vehicle – about eight cameras, a dozen ultrasonic sensors, radar, and LIDAR (Light Imaging Detection and Training) – self-driving vehicles still perceive pedestrians and other vulnerable road users merely as black boxes.

With the current methodology, running driverless cars in densely populated urban areas will remain unviable. A new approach to training autonomous vehicles, however, can accelerate the resolution of this issue. When traditional AI models are trained, they're learning a mapping of a label to an
image. Numbers are generated for thousands of images, and what the AI "remembers" is what images tend to go with what numbers. When you put this system in an AV, it will see pedestrians as black boxes and apply to them the labels it discerns will approximately fit them.

Perceptive Automata removes the black box from the equation and trains AI differently from current methods. In their case, the AI is learning how people would answer questions about what's in the head of a pedestrian so the AV can confidently coexist and operate among people. To achieve this, a new type of so-called state-of-mind AI had to be developed that can be trained on answers generated by questions about what's in the minds of pedestrians that a self-driving vehicle may be interacting with.

To learn about Perceptive Automata's State-of-Mind AI (SOMAI), watch the video.

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•• About Perceptive Automata ••

Perceptive Automata was founded in 2016 by a team of Harvard and MIT neuroscientists, computer vision researchers, software engineers, and machine learning experts to solve what is often described as the hardest problem for automated driving: reading the state of mind of humans for the safe large-scale rollout of automated vehicles. Incorporating visual psychophysics as its framework, its product SOMAI™ (State of Mind AI) enables AVs to understand the intentions and awareness of pedestrians, cyclists, and other road users and make split-second decisions for safer and smoother driving experiences.

www.perceptiveautomata.com

Business Reporter
Press
+44 20 8349 4363
email us here