

Wayve unveils self-driving car trials in central London

November 25 2019



Alumni Dr Alex Kendall (left) and Dr Amar Shah, co-founders of Wayve.
Credit: Fiona Hanson

[Wayve](#), a machine learning company, founded in 2017 by alumni Dr. Alex Kendall, who completed his Ph.D. in Professor Roberto Cipolla's Machine Intelligence group, and Dr. Amar Shah, who completed his Ph.D. in Professor Zoubin Ghahramani's Machine Learning group.

Alex and Amar set up Wayve whilst studying for their Ph.D.'s here at the Department of Engineering. "I don't know of any other university in the

world that has such a culture of research excellence that also supports entrepreneurial commercialization. It's a unique set-up that I could start a business, raise venture capital, and still retain a research position and do open-ended research at Cambridge. I feel very lucky," says Dr. Alex Kendall. "A lot of other universities wouldn't support this, but here you can—and it's resulted in some pretty amazing companies."

Wayve, a startup dedicated to accelerating autonomous mobility through learning based approaches instead of hand-coded rules, have announced a \$20M Series A funding round to launch a pilot fleet of autonomous vehicles in central London.

The investment was led by Eclipse Ventures, with participation from Balderton Capital and existing investors Compound, Fly Ventures and first minute capital as well as several undisclosed preeminent leaders in machine learning and robotics.

Wayve believes that the complexity of self-driving cars will be solved by better artificial intelligence "brains," not by more physical sensors and hand-coded rules. Launched in Cambridge, arguably the birthplace of modern computing and artificial intelligence and recently relocated to London, this is the first time a European self-driving car company has attracted premier Silicon Valley venture capital funding to lead a Series A investment.

In Spring 2019, Wayve publicized an unprecedented achievement, demonstrating a self-driving car navigating on roads it had never previously driven before. This had been accomplished by using only cameras, a 2-D map, and a unique, end-to-end, [deep learning](#) driving brain.

A good human driver can quickly adapt to navigating a new jurisdiction, however existing autonomous solutions lack the requisite ability to detect

and respond appropriately to potential hazards. By contrast, Wayve is committed to building a general and scalable driving brain applicable to any driving environment.

End-to-end machine learning based systems have dominated traditional rule-based approaches in natural language processing, image recognition, speech synthesis and more. "As [computational power](#) and data continue to grow, learning-based approaches will become more inevitable, especially for mobile robotics," said Amar, "the human brain has evolved over millions of years, computers have only had a few decades, but are catching up quickly."

Wayve's team includes leading experts in robotics, computer vision and [artificial intelligence](#) from both Cambridge and Oxford universities with experience from the world's best technology innovators including NASA, Google, Facebook, Skydio and Microsoft. Their work ranges from using deep learning for visual scene understanding to autonomous decision making in uncertain environments with prominent Professors including Zoubin Ghahramani, Roberto Cipolla and Yoshua Bengio.

Provided by University of Cambridge

Citation: Wayve unveils self-driving car trials in central London (2019, November 25) retrieved 6 May 2024 from

<https://techxplore.com/news/2019-11-wayve-unveils-self-driving-car-trials.html>

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