

Automobile control research opens door to new safety features (w/ Video)

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North Carolina State University researchers have written a program that uses algorithms to sort visual data and make decisions related to finding the lanes of a road, detecting how those lanes change as a car is moving, and controlling the car to stay in the correct lane. Credit: Ben Riggan, North Carolina State University

Researchers from North Carolina State University have created a computer program that allows a car to stay in its lane without human control, opening the door to the development of new automobile safety features and military applications that could save lives.

"We develop computer vision programs, which allow a computer to understand what a [video camera](#) is looking at - whether it is a stop sign or a [pedestrian](#). For example, this particular program is designed to allow a computer to keep a car within a lane on a highway, because we plan to

use the program to drive a car," says Dr. Wesley Snyder, a professor of electrical and [computer engineering](#) at NC State and co-author of a paper describing the research. "Although there are some vision systems out there already that can do lane finding, our program maintains an awareness of multiple lanes and traffic in those lanes."

Specifically, Snyder and his co-authors have written a program that uses algorithms to sort visual data and make decisions related to finding the lanes of a road, detecting how those lanes change as a car is moving, and controlling the car to stay in the correct lane.

"This research has many potential uses," Snyder says, "such as the development of military applications related to surveillance, reconnaissance and transportation of materials."

"This computer vision technology will also enable the development of new automobile safety features, including systems that can allow cars to stay in their lane, avoid traffic and gracefully react to emergency situations - such as those where a driver has fallen asleep at the wheel, had a [heart attack](#) or gone into diabetic shock. This can help protect not only the car that has the safety feature, but other drivers on the road as well. That's a next generation of this research."

More information: A paper ("Concurrent visual multiple lane detection for autonomous vehicles") describing the research will be presented in Anchorage, AK, May 4-6 at the IEEE International Conference on Robotics and Automation, which is chaired by Snyder.

Provided by North Carolina State University

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