

A self-driving car, also known as an autonomous vehicle (AV), autonomous car, driverless car, or robotic car (robot-car), is a car incorporating vehicular automation, that is, a ground vehicle that is capable of sensing its environment and moving safely with little or no human input.

Self-driving cars combine a variety of sensors to perceive their surroundings, such as thermographic cameras, radar, lidar, sonar, GPS, odometry, and inertial measurement units. Advanced control systems interpret sensory information to identify appropriate navigation paths, as well as obstacles and relevant signage.

In the present book, fourteen typical literatures about autonomous vehicles published in international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original research on autonomous vehicles. We hope this book can demonstrate advances in autonomous vehicles as well as give references to the researchers, students, and other related people. <sup>1</sup>

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<sup>1</sup> [https://en.wikipedia.org/wiki/Self-driving\\_car](https://en.wikipedia.org/wiki/Self-driving_car)