

Trajectory Planning Algorithms for Autonomous Agricultural Vehicles

Authors : Caner Koc, Dilara Gerdan Koc, Mustafa Vatandas

Abstract : The fundamental components of autonomous agricultural robot design, such as having a working understanding of coordinates, correctly constructing the desired route, and sensing environmental elements, are the most important. A variety of sensors, hardware, and software are employed by agricultural robots to find these systems. These enable the fully automated driving system of an autonomous vehicle to simulate how a human-driven vehicle would respond to changing environmental conditions. To calculate the vehicle's motion trajectory using data from the sensors, this automation system typically consists of a sophisticated software architecture based on object detection and driving decisions. In this study, the software architecture of an autonomous agricultural vehicle is compared to the trajectory planning techniques.

Keywords : agriculture 5.0, computational intelligence, motion planning, trajectory planning

Conference Title : ICAST 2023 : International Conference on Agricultural Science and Technology

Conference Location : Berlin, Germany

Conference Dates : May 11-12, 2023