EXPERIMENT NO :- 01

Date of Performance:

Date of Submission:

Aim: One case study on AI applications published in IEEE/ACM/Springer or any prominent journal.

Theory: **Artificial Intelligence Applications in the Development of Autonomous Vehicles**

Publication Year: 2020

Abstract:

The advancement of artificial intelligence (AI) has truly stimulated the development and deployment of autonomous vehicles (AVs) in the transportation industry. Fueled by big data from various sensing devices and advanced computing resources, AI has become an essential component of AVs for perceiving the surrounding environment and making appropriate decisions in motion. To achieve full automation (i.e., self-driving), it is important to know how AI works in AV systems. Existing research has greatly investigated different aspects of applying AI in AV development. However, only some studies have offered the research community a thorough examination of current practices in implementing AI in AVs. Thus, this paper aims to shorten the gap by providing a comprehensive survey of key studies in this research avenue. Specifically, it intends to analyze their use of AIs in supporting the primary applications in AVs: 1) perception; 2) localization and mapping; and 3) decision-making. It investigates the current practices to understand how AI can be used and what are the challenges and issues associated with their implementation. Based on the exploration of current practices and technology advances, this paper further provides insights into potential opportunities regarding the use of AI in conjunction with other emerging technologies: 1) high-definition maps, big data, and high-performance computing; 2) augmented reality (AR)/virtual reality (VR) enhanced simulation platform; and 3) 5G communication for connected AVs. This paper is expected to offer a quick reference for researchers interested in understanding the use of AI in AV research.

Conclusion: Thus, We have Studied case study on AI applications published in IEEE/ACM/Springer or any prominent journal.

Sign and Remark:

R1 (2 Marks)	R2 (4 Marks)	R3 (4 Marks)	Total (10 Marks)	Signature