

PROBLEM STATEMENT SUBMISSION

Batch –ID	
DEPARTMENT	CSE
CLASS & SECTION	CSE(AIML) H
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Problem statement	The development and testing of autonomous vehicles in real-world environments are costly, time-consuming, and risky. Real-world testing requires expensive hardware, extensive safety measures, and compliance with regulations. Additionally, it is difficult to simulate rare or extreme driving scenarios (e.g., heavy rain, pedestrian crossings, or sudden obstacles) in a controlled manner. Existing simulation tools often lack scalability, realism, or integration with cloud-based ML models.
Abstract	The Autonomous Vehicle Simulation Platform is a cloud-based system designed to train and test self-driving algorithms in a realistic, scalable, and cost-effective environment. The platform leverages Machine Learning for object detection, path planning, and decision-making, while simulating dynamic driving scenarios such as traffic, weather conditions, and pedestrian behavior. Hosted on a cloud infrastructure, the platform enables real-time collaboration and performance analysis through 3D visualization and dashboards. This project addresses the challenges of real-world autonomous vehicle testing by providing a safe, controlled, and customizable environment for developers and researchers. The platform has applications in autonomous vehicle development, research, education, and policy-making, making it a valuable tool for advancing self-driving technologies.

Signature of the students'

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