Abstract

Vehicle platooning is an active area of research in which vehicles travel closely together to improve fuel efficiency and safety, relies heavily on the trustworthiness and cooperation of the participating vehicles. Traditional methods of managing trust in such systems face significant challenges, including vulnerability to malicious behavior and lack of transparency. Any such attack on the platoon from outside or inside will be disastrous as human lives are involved. Such attacks can be dealt with if we only allow trust worthy vehicles. In this research we propose a blockchain-based reputation model for vehicle platooning, designed to address these challenges and enhance the overall reliability and efficiency of platooning systems. Vehicles will only be allowed to join the platoon after calculating their reputation scores and these scores will be saved in a smart contract. This will ensure that every agent can reliably compute the score and no entity can compromise the working of the platoon.