



In the Name of God

University of Isfahan

PhD Thesis Defense Session

Faculty of Computer
Engineering

Computer Engineering, Computer Architecture Engineering

Computer Architecture
Engineering Group

A Reliability Analysis Framework for CR-VANETs

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The reliability of a system is its ability to perform the predefined mission correctly in the determined condition and the specific time interval. It is a big challenge for complex systems. Moreover, precise estimation of system reliability is essential to improve the system's reliability and have a more reliable system. Vehicular networks' reliability evaluation effectively determines the networks' problems, avoids likely future problems, and helps to design efficient networks. The driver's reaction to the communicated messages between the vehicles is one of the most effective parameters in intelligent transportation systems' safety that is ignored in the previous methods for reliability analysis in VANETs. Therefore, we consider the networks with drivers as systems and propose a general framework to evaluate the system's reliability. Since machine learning methods are new methods utilized in different fields and used for automatic predictions without human intervention, in another part of the framework, after reliability evaluation, a dataset is generated for automatic prediction of the system's reliability using machine learning methods. The results show the acceptable precision of the proposed method.