

SOUTENANCE DE THÈSE

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soutiendra sa thèse de doctorat

sur le sujet :

A contribution to data sharing in vehicular networks

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A l'université de technologie de Compiègne
Amphi LI03 – Centre Pierre Guillaumat

Devant le jury composé de :

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Abstract:

In the context of Intelligent Transportation Systems - ITS, vehicles represent an important source of information. Local applications can significantly increase their effectiveness by sharing data within the network. However, data sharing is a complex task in dynamic networks. Many concerns like intermittent connections, network density variation and communication spectrum congestion arise. A usual approach to handle these problems is based on periodic processes. Indeed, a message sent many times can reach its destination even with intermittent connections and low density networks. Nevertheless, within high density networks, they may lead to communication spectrum scarcity. In this research work we address the problem of data sharing in dynamic networks by relying in so-called "horizons of pertinence". A horizon is defined as an area within which an information is expected to be received. We start focusing on data sharing within direct neighbors (at 1-hop of distance). Then we propose a solution to construct a map of neighbors, centered in the ego-node, within a horizon of n-hops. Finally, we relax the horizon definition to a dynamic defined one where different data items may reach different distances (hops). Finally, our contributions were validated by means of realistic network emulations yielding results showing that our approach brings interesting insights for data sharing in dynamic networks like VANETs.