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Towards intra-vehicular sensor data fusion

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Abstract

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Urban mobility aspects have become a challenge with the constant growth of global population. In the same time, more data has become available, which allows new information technologies to improve the mobility systems, especially the transportation system. Thus, a low cost strategy to handle these issues, rises as a new concept named ITS - Intelligent Transportation Systems. These systems depend on various data types and sources, and aggregating it is an important task, which can be accomplished by performing heterogeneous data fusion. In this work, we conducted an exploratory analysis over real vehicular data to show for each listed data issues (i.e imperfection, correlation, inconsistencies, among others) which of them have been found in our data set. Indeed, we found out several issues in the data implying that they must be treated before fusion process. As future extensions of this work, we will apply heterogeneous data fusion techniques to enhance, for example vehicular mobility traces by adding contextual information such as traffic conditions and driver behavior.

[III. Vehicular Data](#)

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Published in: 2016 IEEE 19th International Conference on Intelligent Transportation Systems (ITSC)

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Date of Conference: 1-4 Nov. 2016	INSPEC Accession Number: 16554828
Date Added to IEEE Xplore: 26 December 2016	DOI: 10.1109/ITSC.2016.7795542
ISBN Information:	Publisher: IEEE
Electronic ISSN: 2153-0017	Conference Location: Rio de Janeiro, Brazil

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I. Introduction

The world's population has increased and of city dwellers has surpassed 50% of the whole population. In this scenario, huge cities have emerged and also several human mobility issues such as traffic and transit. At the same time, massive volumes of data have become available, which enabled new information technologies that can be used to improve the mobility systems.

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