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Location Privacy Preservation of Vehicle Data In Internet of Vehicles

Authors : Ying Ying Liu, Austin Cooke, Parimala Thulasiraman

Abstract : Internet of Things (IoT) has attracted a recent spark in research on Internet of Vehicles (IoV). In this paper, we focus on one research area in IoV: preserving location privacy of vehicle data. We discuss existing location privacy preserving techniques and provide a scheme for evaluating these techniques under IoV traffic condition. We propose a different strategy in applying Differential Privacy using k-d tree data structure to preserve location privacy and experiment on real world Gowalla data set. We show that our strategy produces differentially private data, good preservation of utility by achieving similar regression accuracy to the original dataset on an LSTM (Long Term Short Term Memory) neural network traffic predictor.

Keywords : differential privacy, internet of things, internet of vehicles, location privacy, privacy preservation scheme
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