**Reading Summary:** Reducing the Overhead of Multicast Using Social Features in Mobile Opportunistic Networks

**Student Name**,

Zengyang Gong from Shenzhen University

**Submission Date**

9/11/2019

**1 The Problem(s)**

In this paper, we focus on reducing the overhead of multicast in MONs without compromising the delivery performance, through utilizing static social features of nodes and time-varying social behaviors. we propose a Social Profile-based Multicast (SPM) routing scheme, that supports efficient multicast message dissemination with a small maintenance overhead, i.e., little cost on maintaining the historical records

**2 Main Idea(s)**

Then we verify that such social features in fact indicate the contact probability of nodes

Based on such a property, we design a multicast routing scheme, SPM, to achieve efficient delivery performance with small maintenance and transmission overhead. Next, we study the diurnal behaviors in the trace, i.e., the different contact frequency between the daytime and nighttime, and propose an improved scheme, SPMOR, by restricting the number of forwardings during the daytime. Our contributions are highlighted as follows.

Unlike the dynamic contact history information, individual nodes can obtain and maintain the static social features easily

**3 Major Strengths**

1. 利用信息论将轨迹数据中的重要特征找出，并且determine a minimum set of representative features 降低了冗余，并且通过数据验证
2. 工作还考虑了daytime方面的特征，不仅仅限于数据集合中所给的固定特征
3. The solution of this research work is very different from recent popular data-driven solutions like machine-learning or deep-learning. Obviously, this method has better interpretability.

**4 Major Weaknesses**

1. Nodes的不同仅仅是考虑到已经给出的这些特征,没有考虑参会者的私人友谊的联系
2. The cluster of affiliation labels
3. The RMPL algorithm has an absolute advantage in reducing number of stations/chargers and increasing profits, but it doesn’t prove that this method will not have a terrible negative impact on EV drivers’ experience.

**5 Possible Improvement**

1. As for the given possible stations locations, some learning-based methods may give some useful clues by learning from the huge amount of historical data.
2. In the convex optimization problem, some restrictions on the number and efficiency of service EV drivers can be added to balance the profit provider get and the social welfare.