



Kolloquium zur Masterarbeit

Group Finding for Vehicle Platoons using Algorithms in Graphs

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Next generation cooperative traffic management schemes need to be able to deal with a wide range of traffic participants including autonomous vehicles. Vehicle-to-vehicle and vehicle-to-X communication offer the possibility for vehicles to interact with other vehicles and traffic management infrastructure, enabling new approaches for urban traffic control. Platoon is one of the competitive solutions which emerges from the incentive of vehicles to travel together to minimize the cost of total travelled mileage. One essential problem is to define the ideal assignment of a set of vehicles in accordance with the procedure at a meeting with nearby origin and destinations of vehicles; hence, reducing the total cost of a trip.

In order to improve our grouping model for big datasets and estimate the maximal weighted groups graph, pruning approaches are represented. As a complementary solution of the maximum edgeweight clique problem is to exploit the benefits of its grouping, thus offering a practical grouping for the platoon problem.

In this paper, a comparison is represented between graph pruning algorithms (Graph Partitioning (Walktrap), Statistical Spectral Clustering (SSC), Bron Kerbosch and our Greedy algorithm to determine the efficiency of using graph pruning methods. Moreover, the relation is evaluated between the incentives of platoon's groups and their savings.

The following presentation will represent the approach of the system and the subsequent results.

**Freitag, den 10. August 2018, 13:00 Uhr,
Besprechungsraum 106, Ifl (D3), Julius-Albert-Str. 4.**