

## **SUMO enhancement for vehicular ad hoc network (VANET) simulation**

### **ABSTRACT**

Vehicles have become a daily needs for all of us and it is normal that every family is having at least one vehicle at their home. This leads to the increased of accidents and vehicular ad hoc network (VANET) is an approach invented to tackle with this problem. In order to study the algorithm in VANET, a mobility simulator is needed for simulation. SUMO is proved to be a good simulation tool for VANET while MATLAB is good for future algorithm development. To develop a good simulation platform, modification on SUMO files are necessary. This paper discusses on the steps for creating a left-hand traffic (LHT) simulation file that is suitable to be used in Malaysia. Most of the hard work in creating LHT simulation is to modify the road connection and traffic light files. This paper also showed the results of the simulation after SUMO files modification. It is recommended that user make a good decision in deciding the map for simulation. Smaller map is easier to modify, while maintaining the same map for the whole VANET development can prevent a start over on the SUMO files modification process.