



The impact of privacy on smart traffic lights systems

With modern technologies in vehicles like the use of VANETS, other systems like traffic lights can be upgraded. A smart traffic light system (STLS) can adjust the green phases according to the number of vehicles driving towards it. An even more intelligent version, can even calculate the vehicles' trajectory and approximate arrival time, adjust the phase appropriately and then send a message to the vehicle with how long the green phase will last. With this information, the vehicle can then adjust the speed so it will does not need to break. The STLS would need certain information of the vehicles, like position, speed and size, which could lead to a privacy breach when the vehicle can be tracked. Therefore, privacy mechanisms need to be implemented, like the PET Differential Privacy. In this thesis, you should create a survey of possible PETs as well as look into possible scheduling algorithms for this scenario. Select a simple and a more complex algorithm for the traffic light control and compare them with the help of a simulation. Then choose at least one PET with which you will evaluate the impact of privacy on your STLS.


Master's
Thesis

30
CP

Suitable for all students who heard the PETS lecture or are interested in the topic

Michael Wolf | michael.wolf@uni-ulm.de | 027-3210

If your are interested or you need additional details, feel free to contact me or drop by for a non-binding chat.

