Aerial-Ground Cooperative Vehicular Networks

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Autonomous driving has received remarkable attention both in the academia and industry.

• In the current autonomous driving systems, in-vehicle equipment (radars, cameras, CPU, and sensors) increases the cost of automated vehicles.

• Autonomous driving is able to improve our city life by being much more environmentally friendly, time saving and being much safer for the drivers and pedestrians alike.

• Multiple UAVs, forming an aerial subnetwork, aid the ground autonomous vehicle dynamics and other traffic information.

• UAVs can act as intermediate relays due to their flexible mobility when network partitions happen in the ground vehicular subnetwork.

• Reinforcement learning algorithm is invoked for obtaining the optimal motions of autonomous vehicles by exploring the environment in an iterative manner and by learning from their mistakes.