## Abstract

Autonomy is playing an important role in many walks of life. As humanity progresses, the reliance on autonomous systems is going to increase. Autonomous systems are present in space, air, ground, under-water and everywhere in between. From everyday commute vehicles to operating complex procedures in hospitals, autonomous systems are playing an important role. For these autonomous systems, the safe operation is the biggest concern. Unmanned Ground Vehicle (UGV) is an autonomous system, although, not fully autonomous yet but in limited capacity they are running on urban roads. Some autonomous features have been part of everyday vehicles in the form ADAS systems. Some examples include Adaptive Cruise Control (ACC), Lane Change Assist (LCA), Lane Departure Warning (LDW) etc. These systems are at max SAE level 3 and requires the availability of human driver at all times so he can take control in case of some emergency. One of the most dangerous and complex maneuver a human driver can perform is that of overtaking. In overtaking, there are atleast 3 views that have to be monitored and tracked before and while overtaking. The incoming vehicles, side lane and lead vehicle. The strategy used while overtaking is that of constant spacing between vehicles. The communication between vehicles is done by way of FIPA ACL. With V2V communication the ego vehicle tells other UGVs that it is going to overtake. The other vehicle can also acknowledge or refuse to accede to the demand. The ego vehicle can itself cancel the overtake maneuver in case of unforseen circumstances. This message passing assures that there is very low probability of conflict and overtaking manuever becomes more like problem of critical region, which is resolved by taking turns in overtaking.