Advanced Ego-Vehicle Motion Estimation

Used to achieve precise localization and tracking

Motion models for vehicle dynamic behaviour
- Constant position
- Constant velocity
- Constant acceleration
- Constant turn
- Constant turn rate
- ... and their combinations

Vehicle sensors
- GPS
- Lidar
- Camera
- Radar
- IMU

State estimation techniques
- Kalman filter
  - EKF
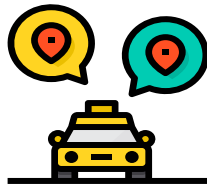 - UKF
- Particle filter
  - EHF
  - UHF
- H_∞ filter

Sensor fusion
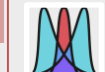
Robust, reliable and real-time knowledge of the vehicle states