Taxonomy of Driving Automation

ODD(Operational Design Domain)

The conditions under which the automated driving system is designed to function and the scope of application, e.g. speed, traffic conditions, road type, weather, environment, etc.

3 main Driving Task

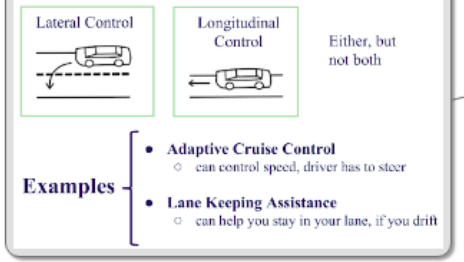
- Perceiving the environment
- Planning how to reseach from point A to B
- Controlling the vehicle
  - steering, break, acceleration ...

What makes up a driving task

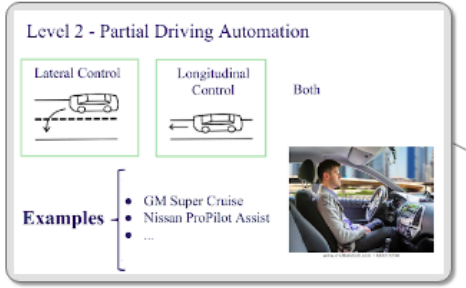
- Object and Event Detection and Response(OEDR): detection, reaction
- Controlling
  - Lateral control
  - Longitudinal control
- planning
  - long term
  - short term
- Miscellaneous

Levels of automation

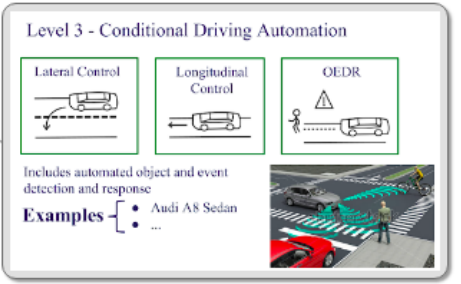
- Level 0: regular vehicles, no automation
- Level 1 - Driving Assistance



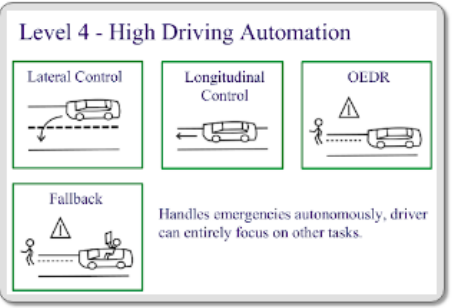
- Level 2 - Partial Driving Automation



- Level 3 - Conditional Driving Automation

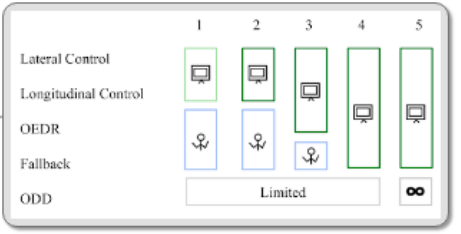


- Level 4 - High Driving Automation



- Level 5: Full driving automation, unlimited ODD

Summary for levels of automation



@ Jingsheng Lyu