Generally, an autonomous system compose four subsystems: sensors, perception, planning, and control. A good illustration is the self-driving car system shown in Figure 1.

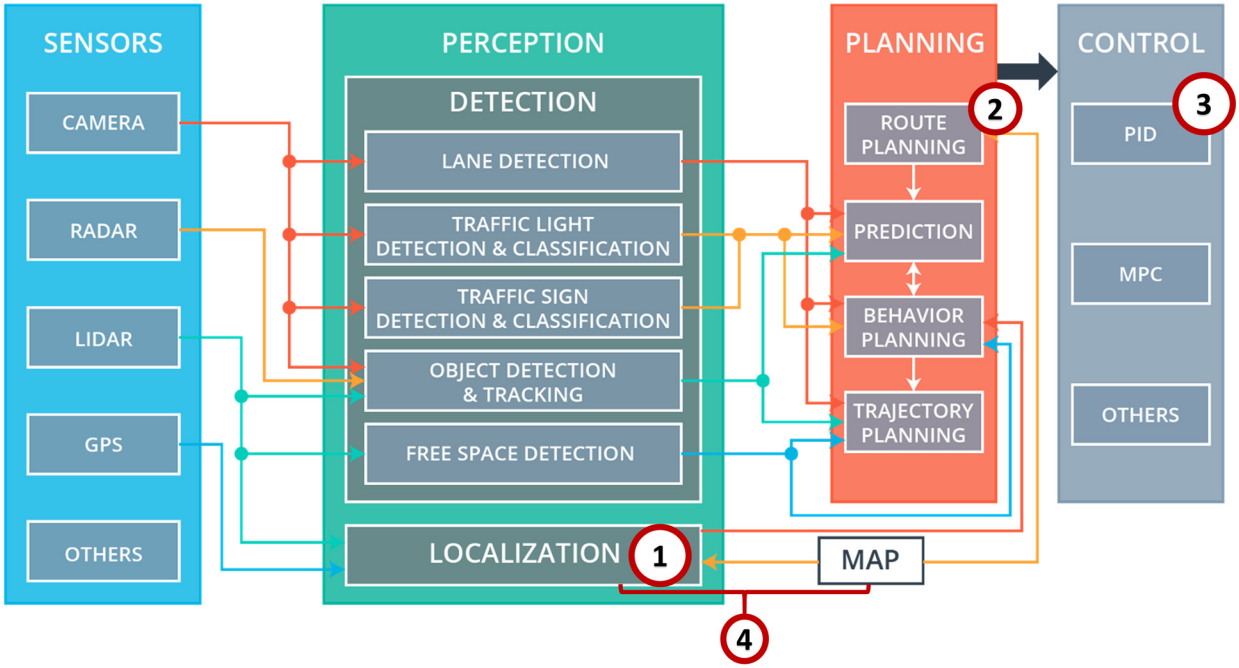

Figure 1. Four subsystem components flowchart [1]

The flowchart is a good illustration showing the functionalities of the techniques we learnt from the class:

(1) Localization: Histogram filters, Kalman Filters, and Particle Filters

(2) Route Planning (Search): Dijkstra's Algorithm, A* and Dynamic Programming

(3) Control: Path Smoothing, PID control, and Controller Gain Parameter Optimizations

(4) SLAM: GraphSLAM and Online SLAM

Reference

[1] How the Udacity Self-Driving Car Works: https://medium.com/udacity/how-the-udacity-self-driving-car-works-575365270a40