

# Simultaneous Localization and Planning

Simultaneous Localization and Planning is an algorithm used for autonomous navigation. As the name suggests, it enables to simultaneously map the surroundings of the autonomous agent using data it collects from sensors and also plot its trajectory of movement within this environment which is localization. SLAM employs finding easily distinguishable landmarks from the sensor data. Sensor data can be in the form of cameras, LiDARs, Laser scans etc which is processed by SLAM to produce a probabilistic map of its surroundings and localizes the agent in the map. The probability map is constantly updated as the autonomous agent collects data from the sensors.