

Autonomous Vehicle Localization by Leveraging Cellular Connectivity



Presentation Abstract

One of the key technologies to enable Autonomous Vehicles is precise localization. Latitude, longitude and height can be computed with sub-meter accuracy by combining satellite signals with camera video, inertial measurements, and Precise Point Positioning (PPP). General Motors has demonstrated the technical and commercial feasibility of using PPP state-space corrections delivered through the local cellular carrier for Level 2/3 autonomous vehicles in North America and China. This blend of cellular connectivity and precise positioning technologies provides necessary redundancy to visual sensors on the vehicle to improve safety and reliability of autonomous vehicles. This presentation will review some of the key characteristics of a localization sub-system to achieve low cost and high reliability