Title of the Invention: System and Method of Adaptive Synchronization between Sensors

Abstract

Environment perception using multiple sensors is important for the all the functions of advanced driver-assistance system (ADAS), vehicular automation, industrial off/on road and other applications. One key issue of utilizing multiple sensors is time synchronization. Conventional synchronization techniques focus on network-based and hardware trigger-based methods. Those methods are effective when the frame rates of different sensors are constant. However, in some applications, the frame rate of sensors, especially radars, is time-varying so that the sensor can adapt to the environment where the number of targets keep changing, ranging from very small quantity of data to very large quantity of data depending on the number of detected targets. The conventional synchronization method fails in this case. This patent considers the problem of synchronization between radar and other sensors such as cameras, especially when the frame rate of the sensor is not constant. A method of adaptive synchronization between radar and other sensors like camera, etc. is devised for that purpose.