Development of an Intelligent VLC indoor positioning algorithm for Location-Aware Robot systems

Mots clés:

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Résumé du projet de recherche (Langue 1)

The development of location-aware robot systems for new products and services is currently an active area of research. While the widespread use of GPS in portable telephones, PDAs or other smart devices, makes obtaining reliable positioning information in outdoor scenarios with good satellite visibility relatively straightforward, the problem of localization in indoor environments, for example tracking a robot in an indoor environment, remains for the moment unsolved. Although a number of indoor localization solutions have been proposed- based upon WiFi networks, RFID tags, or Ultra Wide Band techniques- none, as yet, seems capable of simultaneously satisfying the performance, ease of use, and ubiquity criteria necessary for a large scale implementation. The objectives of this PhD program are: study and analysis different localization method for visible light communication system. and to explore the possibility of combining the technique with other sensor such as magnetometers, laser, accelerometers, etc., in order to improve performance ; To develop a data analysis and statistical learning algorithms for an« intelligent sensor» which can be implemented in practical location-aware robot system.

Résumé du projet de recherche (Langue 2)

The PhD projet proposes to analysis Optical Wireless Channel and to el

Informations complémentaires (Langue 2)

Interest in the development of new location-aware products and services for robot systems, particularly for use in indoor environments, is growing rapidly worldwide. In the past few years, international workshops on localization have been held quite regularly, for example, SyCoLo in Dresden in 2009, WPNC in 2010, APLEC at the ICC in Istanbul in 2010, VLICW in 2015, ISCAS in 2016 to mention a few of the more recent ones.