Cooperative positioning system for indoor surveillance applications

Abstract

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Abstract:
This paper presents basic characteristics of the problem of positioning errors propagation in collaborative multi robot environments. We propose two localization methods to achieve a cooperative positioning system using a collaborative autonomous robotic team for indoor surveillance applications. Based on case study simulation results, we were able to evaluate the error propagation process and to obtain the two-dimensional (2D) localization errors for the two proposed methods: Iterative Least Square (ILS) Localization and Backtracking Particle Filter (BPF) Localization.

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