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Book Chapter

Fuzzy Communication and Motion Control by Fuzzy Signatures in Intelligent Mobile Robots

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Abstract

This paper presents two examples for the deployment of fuzzy signatures in the field of intelligent mobile robots. The first shows a complex lateral drift control method base on fuzzy signatures. This method considers the motion system of the robot as a whole, unlike as simple parts of a complex system. The state space is written down by fuzzy signatures which add up flexibility, adaptability and learning ability to the system. In the second experiment a new communication approach is investigated for intelligent cooperation of autonomous mobile robots. Effective, fast and compact communication is one of the most important cornerstones of a high-end cooperating system. In this paper we propose a fuzzy communication system where the codebooks are built up by fuzzy signatures. We use cooperating autonomous mobile robots to solve some logistic problems.

Keywords fuzzy signatures - fuzzy communication - intention guessing - mobile robotics - motion control

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