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Application of Fuzzy Logic to Design and Coordinate Parallel Behaviors for a Humanoid Mobile Robot

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Abstract : This paper presents a design and implementation of a navigation controller for a humanoid mobile robot platform to operate in indoor office environments. In order to fulfil the requirement of recognizing and approaching human to provide service while avoiding random obstacles, a behavior-based fuzzy logic controller was designed to simultaneously coordinate multiple behaviors. Experiments in real office environment showed that the fuzzy controller deals well with complex scenarios without colliding with random objects and human.

Keywords : behavior control, fuzzy logic, humanoid robot, mobile robot
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