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Abstract
The thesis proposes a fuzzy speaker localization recognition (FSLR) system and its applications to be as a robotic acoustic system. The hardware of the FSLR system basically contains four linear arrays in which each array is composed of four microphones and mounted on each neck side of the robot. It aims to estimate the degree relationship between the main speaker and the robot and provides the robot useful information for more effective human-robot interactions. The FSLR system can determine the location of the voice according to energy information between the main speaker and robot not only in normal enviroment but also in noiseful or reverberative space. The experimental results show that the proposed system has obtained satisfactory recognition efficiency, moreover, raised the robotic friendliness and adaptability.
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