

Empathy Path Planning

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In human interactions, empathy appears as the main factor in maintaining good relationships in a given environment. With the growth of fields related to robotics, this theme has gained relevance, especially concerning the human-machine relationship, the decision making of robots to have a new parameter, the emotional state of people. After all, these considerations are important in the environments where these robots will operate. The analysis of empathy becomes valid when disturbances generation is not desired in places with high social interaction. Due, the advancement of robotics in recent years, it is increasingly common to find robots interacting with people. Many of these robots need to move in the same space as humans. Although there are already several solutions for robotic navigation in environments with people, few solutions consider empathy as a key factor in defining the robot of route. Empathic paths can be defined as those where the robot gives up the shortest path in favor of a more comfortable path for other people. For example, to perform socially acceptable actions, it is necessary to consider the reaction of people present in the environment. Thus, during the execution of displacement, the robot cannot arbitrarily touch people or move between them without a well-defined criterion. For socially acceptable performance, the trajectory choice must consider the possible emotional changes that this may cause. For this, the current state of the person may represent important parameters for these considerations. Finally, it must be taken into account that a poorly planned route can cause extremely negative impacts on the application environment.