

## FABRICATION AND DEVELOPMENT OF ROBOT THAT APPROACHES PEDESTRIANS

When robots serve in urban areas such as shopping malls, they will often be required to approach people in order to initiate service. This paper presents a technique for human–robot interaction that enables a robot to approach people who are passing through an environment. For successful approach, our proposed planner first searches for a target person at public distance zones anticipating his/her future position and behavior. It chooses a person who does not seem busy and can be reached from a frontal direction. Once the robot successfully approaches the person.

### INTRODUCTION

ROBOTS have started to move from laboratories to real environments, where they interact with ordinary people who spontaneously interact with them. Robots have been tested in guiding roles in museums and supermarkets. Social robots, such as receptionists and tutors, have been developed to interact like humans, communicating socially with people.

The “initiating interaction” is one of the fundamental capabilities of human–robot interaction for such robots. That is, the initiating interaction would be commonly useful among these robots, while each of them would engage in task-specific interaction for each individual application after initiation.