

Deploying natural language with topological relations for robotics behavior.

ABSTRACT

Topological descriptions and maps are key prerequisite to any autonomous machine for successful navigation in unpredictable behavior of environment. It is necessary to consider topological map with metric refines of 9-interaction model for the movement of the robot and react its environment accurately. The aim of present study was to identify the robotics movement and its behavior using natural language spatial relations to process information for robot without computation failures and communication errors. The similarity measure of geometric interpretation is considered for computation for the movement of robot. The splitting metric concepts are used for robotics movement to determine the appropriate way to divide by line in a region. The 16 different metric parameters for natural-language spatial term are considered to find out the appropriate direction for the robotic movement. So that robot will react with behavior of environment with natural language spatial term. There are 32 natural language spatial terms are found for robotic movement from present study found and finally these natural languages with spatial relationship are deployed for robotics movement. All these natural language spatial terms could be used in any research related to spatial technology especially where autonomous machine is used.

Keyword: Behavior based robot; Spatial relationship; Autonomous machine; Geometric interpretation.