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Abstract

abstract abstract

Keywords: Keywords

Introduction

General introduction

In the latest year robot has become a more and more prominent part of the work force, becoming more present in most sector of the industries. Robot were particularly important in the manifacturing industry as repeated movement and task could be automated, increasing productivity and the safety of the workers, that worked with big macinery [1]. Industrial robot are big, and can be dangerous to human working cloes to it, that is why during the last years [2] cobot has been introduced. Cobot are, lighter, smaller but safer[3] than industrial robot, using force sensors and appositi algorithm they are deemed safe to work side by side with a human under the [4] sets of law This ensured to provide the flexibility that the industrial robot missed allowing robot to be used in more specific and more elastic, flexible task, where the specific can change with time, which made them unfit for industrial robot, where programming tend to be more complex [4] So the robot and the human could collaborate on a task, resulting in the human doing less repetitive or dangerous tasks.

[1]:paper
[2]:paper
[3]:paper
[4]:define(ISO?)
.

What is HRC

HRC, which stands for human robot collaboration, is a field of robotics that studies collaborative tasks between robots and human.[5] .

5:difficulties in HHC paper

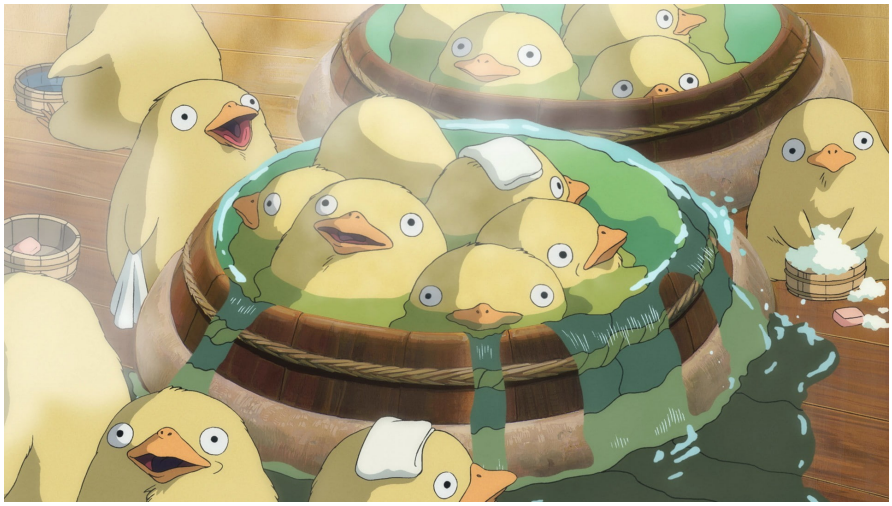

Figure 1

Literature review

Methods

Behaviour tree

Behavior tree are a method to organize the decision making of a system, they have find usage particularly in A.I for video games and chatbot. They can be considered as an extension of finite state machine [1] . [1]:paper

The tree is composed by different type of leaf:

- Behaviour: behaviours are the leaf of the tree, they represent an action that the robot has to perform to coplete the task
- Composites: composites are sets of behaviour, that will suceed based on the results of the childrenbehaviour

In later year they have been used also in robotics as control system for various reasons: they support reactivity, particular important for task where human robot collaboration is involved, modularity is improved by having behaviour that manage one aspect of the entire task

Results

Discussion

Conclusions

Bibliography

[1] Dylan Cawthorne. Robot ethics: Ethical design considerations. In *Foundations of Robotics: A Multidisciplinary Approach with Python and ROS*, pages 473–491. Springer, 2022.