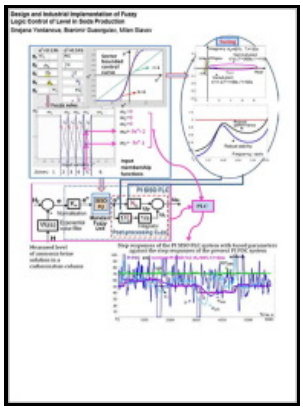
Designing and optimizing fuzzy-logic controllers

National Library of Canada - A controller based on Optimal Type



Description: -
-Designing and optimizing fuzzy-logic controllers
-
Canadian theses = Thèses canadiennesDesigning and optimizing fuzzy-logic controllers
Notes: Thesis (M.A.Sc.)--University of Toronto, 1993.
This edition was published in 1993

Tags: #OPTIMIZATION #AND #DESIGNING #OF #PID, #FUZZY #& #PID

[PDF] Particle Swarm Optimization for designing an optimal fuzzy logic controller of a DC motor

The study is concluded by evaluating the performance of the proposed framework in frequent and consecutive model updates where the balance between model accuracy and complexity is further assessed. Weights are the parameters that represent the new incoming data of the system modeled by a Fuzzy Petri net. In: 2011 4th International Conference on Human System Interactions HSI , Yokohama, 2011, pp.

Type

However, these methods treat the fuzzy controllers as a black box since the input—output relationships are not fully understood. The proposed OT2FLC was implemented in real-time to control the position of a DC servomotor, which is part of a robotic arm. Should Gaussian or piecewise linear MFs be used? To test these optimized FLCs in this first step of the research we use three different plants.

A controller based on Optimal Type

Design of Fuzzy Logic Controller Figure. Using this we can define the fuzzy set.

Design and Optimization of Interval Type

But the response of the fuzzy logic controller AND PID-Fuzzy is free from these dangerous oscillation in transient period. For this reason a concerted effort has been dedicated to obtaining methods that are more aggressive and manage to obtain solutions of quality in a nearer horizon.

DESIGN AND SIMULATION OF FUZZY LOGIC CONTROLLER USING MATLAB

PID controller is the most widely used control strategy in industry. From the figure, results shows that the response of PID Controller is oscillatory which can damage the system.

Type

This paper presents a comparative study between the firefly algorithm FA and the galactic swarm optimization GSO method, where the

performance of both methods is observed and tested in the optimization of a fuzzy controller for path tracking of an autonomous mobile robot. HBBOS is also applied to minimum spanning tree problems. Performance analysis of PID and Fuzzy Logic Controller has been done by the use of MATLAB and simulink.

DESIGN AND SIMULATION OF FUZZY LOGIC CONTROLLER USING MATLAB

We give the formal description of the model, an algorithm for learning the weights without the need to transfer into a neural network, an algorithm for the fuzzy reasoning, the algebraic forms of the new state equation, and the stability analysis. The proposed controller has the ability to deal with uncertainties when the PLI robot works on the insulated access cable.

Related Books

- Harmonic forms - an elementary study correlating theory, harmonic aural-training, and instrumental a
- Poesía náhuatl - la de ellos y la mía
- Blaue Wunderfisch - ein überraschungs-aufklapp-bilderbuch
- Minutes of the Ad Interim Committee of the International Missionary Council - Whitby, Ontario, Canad
- Croquis Laurentiens