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Christian G. Quintero M.
Universidad del Norte (Colombia) | Uninorte · Department of Electric and Electronic Engineering
PhD in Information Technology

Contact

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About Publications 72 Network

72
Publications
15,409
Reads 1
495
Citations

about

ntroduction

Our world needs more AI+ICT technology-based solutions to society's problems, so I help people and companies to find such solutions as an intelligent systems designer. I think there are unsolved challenges in companies, industries, and organizations. As an enthusiast who focuses on analytics to make the right decisions, I'm helping find solutions through intelligent system-grounded approaches. I'm passionate about AI + ICT, join and support me to invent a better place for everyone.

Skills and Expertise

- Mobile Robotics
- Intelligent Transportation Systems
- Energy Efficiency
- Energy Efficiency in Building
- Pattern Recognition
- Image Processing
- Fuzzy Logic

Additional affiliations

January 2008 - present

Universidad del Norte (Colombia)

Department of Electrical and Electronics Engineering · Barranquilla, Colombia

Position

Professor (Associate)



September 2002 - October 2007

Universitat de Girona

Agents Research Lab - ARLab · Girona, Spain

Position

Researcher



ublications

ublications (72)



Intelligent System for the Predictive Analysis of an Industrial Wastewater Treatment Process

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Article

Full-text available

Aug 2020

Luis Arismendy · Carlos Cárdenas · Diego Gomez · [...] · Christian G. Quintero M.

Considering the exponential growth of today's industry and the wastewater results of its processes, it needs to have an optimal treatment system for such effluent waters to mitigate the environmental impact generated by its discharges and comply with the environmental regulatory standards that are progressively increasing their demand. This leads t...

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Intelligent Exploration Approaches Based on Utility Functions Optimization for Multi-Agent Environment Applications

Article

Full-text available

Mar 2021

José Oñate-López · Loraine Navarro · Christian G. Quintero M. · Mauricio Pardo

In this work, the problem of exploring an unknown environment with a team of agents and search different targets on it is considered. The key problem to be solved in multiple agents is choosing appropriate target points for the individual agents to simultaneously explore different regions of the environment. An intelligent approach is presented to...

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A Prescriptive Intelligent System for an Industrial Wastewater Treatment Process: Analyzing pH as a First Approach

Article

Full-text available

Apr 2021

Luis Arismendy · Carlos Cárdenas · Diego Gomez · [...] · Christian G. Quintero M.

An important issue today for industries is optimizing their processes. Therefore, it is necessary to make the right decisions to carry out these activities, such as increasing the profit of businesses, improving the commercial strategies, and analyzing the industrial processes performance to produce better goods and services. This work proposes an...

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Multivariate Statistical Analysis for Training Process Optimization in Neural Networks-Based Forecasting Models

Article

Full-text available

Apr 2021

Jamer Rene Jimenez Mares · Loraine Navarro · Christian G. Quintero M. · Mauricio Pardo

Data forecasting is very important for electrical analysis development, transport dimensionality, marketing strategies, etc. Hence, low error levels are required. However, in some cases data have dissimilar behaviors that can vary depending on such exogenous variables as the type of day, weather conditions, and geographical area, among others. Comm...



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A Simple WiFi Harvester with a Switching-Based Power Management Scheme to Collect Energy from Ordinary Routers

[Article](#) [Full-text available](#)

May 2021

 Fernando Angulo ·  Loraine Navarro ·  Christian G. Quintero M. ·  Mauricio Pardo

This paper shows the design process of a simplified harvesting circuit for WiFi at the 2.4 GHz frequency band based on the analysis of the environment available signals. Those signals and their power level define an antenna design to maximize captured energy and select the proper number of stages for a voltage multiplier so that an impedance matchi...




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Improved genetic algorithm approach for coordinating decision-making in technological disaster management

[Article](#) [Full-text available](#)

Dec 2023

 Bethsy Guerrero ·  Christian G. Quintero M. ·  César Viloria Núñez

The increasing frequency of technological events has resulted in significant damage to the environment, human health, social stability, and economy, driving ongoing scientific development and interest in emergency management (EM). Traditional EM approaches are often inadequate because of incomplete and imprecise information during crises, making fa...

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Generative AI: The key for everyday problems. A comparison proposal for new users

[Conference Paper](#)

Nov 2023

 Oscar I. Iglesias R ·  Christian G. Quintero M.

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Multi-Objective Optimization for Medical Supplies Storage and Distribution in Disaster Management

[Conference Paper](#)

Nov 2023

 Bethsy Guerrero ·  Christian G. Quintero M. ·  César Viloria Núñez ·  Miguel Ángel Jimeno Paba

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A deep-learning-based grading system (ASAG) for reading comprehension assessment by using aphorisms as open-answer-questions

[Article](#) [Full-text available](#)

Jul 2023

 Ivan Mardini ·  Christian G. Quintero M. ·  César Viloria Núñez · [...] ·  Karen Villalba

Today reading comprehension is considered an essential skill in modern life, therefore, higher education students require more specific skills to understand, interpret and evaluate texts effectively. Short answer questions (SAQs) are one of the relevant and proper tools for assessing reading comprehension skills. Unlike multiple-choice questions, S...

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Multi-Objective Particle Swarm Optimization Approach for Population Classification in Emergency Management

[Conference Paper](#) [Full-text available](#)

May 2023





 Bethsy Guerrero ·  María Valle ·  Mauricio Restrepo · [...] ·  Christian G. Quintero M.

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Atmospheric Dispersion Prediction for Toxic Gas Clouds by Using Machine Learning Approaches

[Chapter](#)

May 2023

 Maria Ines Valle Rada ·  Bethsy Guerrero ·  Christian G. Quintero M. · [...] ·  Miguel Ángel Jimeno Paba

The to the frequent industrial accidents of chemical origin present today, some tools can predict atmospheric dispersion considering meteorological and chemical factors and the incident scenario. However, they have

limitations, such as not being scalable and not allowing integrations with other software, e.g., ALOHA (Areal Locations of Hazardous At...

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Industrial wastewater treatment technologies for reuse, recycle, and recovery: advantages, disadvantages, and gaps

[Article](#) [Full-text available](#)

Apr 2023

 Ricardo Mejía-Marchena ·  Aymer Maturana ·  Diego Gomez · [...] ·  Carlos Cárdenas-Pérez

To reduce demand and discharge, instead of industrial wastewater being not enough treated and disposed of, it can be recycled, reused, or recovered considering well management. Thus, having a substantial decrease in the water need and environmental impacts. The challenge is to select the proper combination of processes based on the wastewater quali...





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An Architecture to Improve Energy-Related Time-Series Model Validity Based on the Novel rMAPE Performance Metric

[Article](#) [Full-text available](#)

Jan 2023

 Jamer Rene Jimenez Mares ·  Daniela Charris ·  Mauricio Pardo ·  Christian G. Quintero M.

In this paper, an architecture based on computational intelligence for time series modeling is proposed to guarantee the automatic adjustability of trained models no matter the dynamic behavior of the modeled phenomena. The proposed method can assess the performance; and then proposes a maintenance routine for the time-series model. Thus, an audito...

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Computational Tool for Technological Risk Assessment in the Transport of Chemical Products

[Conference Paper](#)

Nov 2022

 Brayan Díaz-Camacho ·  Duban Restrepo ·  Christian G. Quintero M. · [...] ·  Jonathan Quiroga-Amaya

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Industrial Wastewater Treatment Technologies For Reuse, Recycle, And Recovery: Advantages, Disadvantages, And Gaps.

[Preprint](#) [Full-text available](#)

Dec 2021

 Ricardo Mejía-Marchena ·  Aymer Maturana ·  Diego Gomez · [...] ·  Carlos Cárdenas




To reduce demand and discharge, instead of industrial wastewater being poorly treated and disposed of, it can be recycled, reused, or recovered if it is properly managed, thus having a substantial decrease in the water requirement and environmental impacts. The challenge is to select the appropriate process or combination of processes to achieve th...

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An efficiency-based multi-state system for reliable power delivery combining renewable sources

[Article](#)

Dec 2020

 Loraine Navarro ·  Christian G. Quintero M. ·  Mauricio Pardo

This paper presents a solar-wind-battery uninterruptible power supply system, which improves reliability issues at the same time that reduces the electric energy bill. The system allows transparent commutation/combination among generators using a DC diode-based OR-gate scheme taking advantage of the renewable-sources nature and avoiding complex syn...

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A Methodology for Energy Load Profile Forecasting Based on Intelligent Clustering and Smoothing Techniques

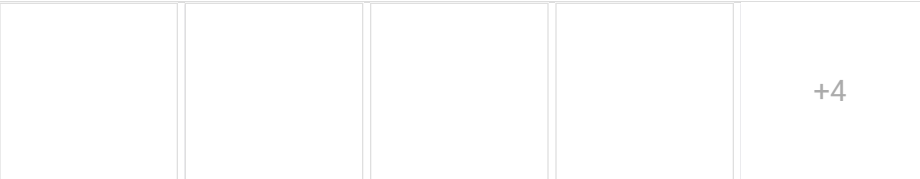
[Article](#) [Full-text available](#)

Aug 2020

Jamer Rene Jimenez Mares · Loraine Navarro · Christian G. Quintero M. · Mauricio Pardo

The electrical sector needs to study how energy demand changes to plan the maintenance and purchase of energy assets properly. Prediction studies for energy demand require a high level of reliability since a deviation in the forecasting demand could affect operation costs. This paper proposed a short-term forecasting energy demand methodology based...

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Imitating Human Emotions with a NAO Robot as Interviewer Playing the Role of Vocational Tutor

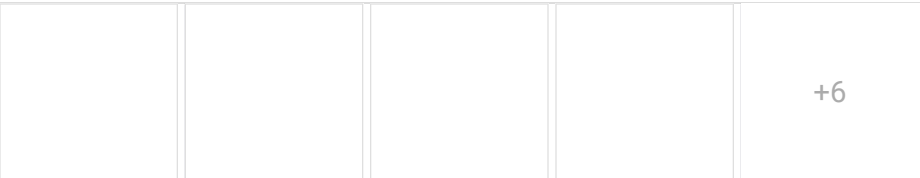
[Article](#) [Full-text available](#)

Jun 2020

Selene Goenaga · Loraine Navarro · Christian G. Quintero M. · Mauricio Pardo

This paper proposes an intelligent system that can hold an interview, using a NAO robot as interviewer playing the role of vocational tutor. For that, twenty behaviors within five personality profiles are classified and categorized into NAO. Five basic emotions are considered: anger, boredom, interest, surprise, and joy. Selected behaviors are grou...

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Computational Intelligent Approaches for Non-Technical Losses Management of Electricity

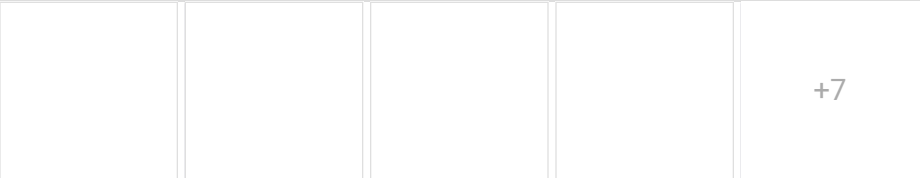
[Article](#) [Full-text available](#)

May 2020

Rubén González Rodríguez · Jamer Rene Jimenez Mares · Christian G. Quintero M.

This paper presents an intelligent system for the detection of non-technical losses of electrical energy associated with the fraudulent behaviors of system users. This proposal has three stages: a non-supervised clustering of consumption profiles based on a hybrid algorithm between self-organizing maps (SOM) and genetic algorithms (GA). A second st...

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Intelligent System for Interactive Teaching through Videogames

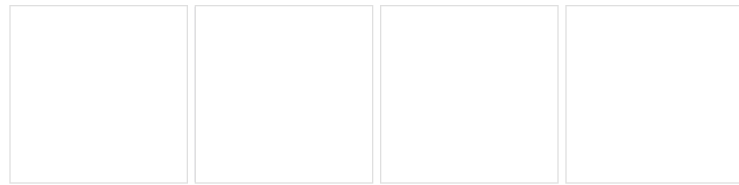
[Article](#) [Full-text available](#)

Apr 2020

Diego Robles · Christian G. Quintero M.

Education, videogames, and intelligent systems are all relevant topics for researchers. Determining means of improving academic performance using a range of techniques and tools is an important challenge. However, while there are currently websites and multimedia resources that help students to improve their knowledge on specific topics, these lack...

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Reuse of manganese sulfate as raw material by recovery from pesticide's wastewater using nanofiltration and electro-electrodialysis: process simulation and analysis from actual data[Article](#) [Full-text available](#)

Apr 2020

[Ricardo Mejía-Marchena](#) · [Aymer Maturana](#) · [Diego Gomez](#) · [...] · [Carlos Cárdenas](#)

Reuse of wastewater, as well as recovery of valuable, toxic or harmful products in industrial discharges still represents an important issue. Not only because its effect on receiving water bodies, but also because of economic resources that represents for industry itself. In this research, in situ regeneration of Mn_2SO_4 is evaluated, for its reuse...

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Intelligent Driving Assistant Based on Road Accident Risk Map Analysis and Vehicle Telemetry[Article](#) [Full-text available](#)

Mar 2020

[José Terán](#) · [Loraine Navarro](#) · [Christian G. Quintero M.](#) · [Mauricio Pardo](#)

Through the application of intelligent systems in driver assistance systems, the experience of traveling by road has become much more comfortable and safe. In this sense, this paper then reports the development of an intelligent driving assistant, based on vehicle telemetry and road accident risk map analysis, whose responsibility is to alert the d...

[View](#)**A Lab-oriented Testing Platform for Emulating a Wind Turbine in a DC Microgrid**[Conference Paper](#)

Feb 2020

[Loraine Navarro](#) · [Christian G. Quintero M.](#) · [Mauricio Pardo](#)[View](#)**HYRES: A Multi-Objective Optimization Tool for Proper Configuration of Renewable Hybrid Energy Systems**[Article](#) [Full-text available](#)

Dec 2019

[Katheryn Donado Mercado](#) · [Loraine Navarro](#) · [Christian G. Quintero M.](#) · [Mauricio Pardo](#)

This paper presents the Hybrid Renewable Energy System (HYRES), a powerful tool to contribute to the viability analysis of energy systems involving renewable generators. HYRES considers various input parameters related to climatic conditions, statistical reliability, and economic views; in addition to offering multi-objective optimizations using Ge...

[View](#)**Intelligent Autonomous Driving in a Virtual Environment**[Conference Paper](#)

Mar 2019

[Juan Camilo Gomez Santofimio](#) · [Luis David Diaz Chica](#) · [Christian G. Quintero M.](#)

Autonomous driving is expected to become a part of daily life in the near future. Large companies in the automotive industry plan for autonomous cars to arrive in the consumer market in the next few years and the need for them continues rising due to traffic accidents numbers been so high. In this paper, an autonomous driving system is proposed usi...

[View](#)**Multivariate Statistical Analysis based Methodology for Long-Term Demand Forecasting**[Article](#)

Jan 2019

[Jamer Rene Jimenez Mares](#) · [Abimael Pertuz](#) · [Christian G. Quintero M.](#) · [Johnny Montana](#)

Forecasting models are necessities in electrical utilities to set the energy cover for several years in order to minimize the operational cost. In this sense, a low error is required to avoid high levels energy exchange with market and hence an increase in the operation costs. However, demand energy has monthly a behavior correlated with some econo...

[View](#)**Intelligent Execution of Behaviors in a NAO Robot Exposed to Audiovisual Stimulus**

Conference Paper

Nov 2018

Sorelys Sandoval Diaz · Jessied Maria Marriaga Shaik · Juan Camilo Gomez Santofimio · Christian G. Quintero M.

Emotions and their intimate relationship with how humans interact with each other are currently studied as an alternative to stimulate what is called as Human-Robot Interaction (HRI). Different strategies that use emotions in robots as a central element have been developed to fulfil this goal, which has allowed the improvement of the interaction qu...

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Estimation of the shielding performance of transmission lines considering effects of landform, lightning polarity and stroke angle

Article Full-text available

Jun 2018

Johny Montana · Victor Jimenez · John E. Candelo-Becerra · Christian G. Quintero M.

Lightning is the main cause of transmission system outages, affecting reliability of power supply and resulting in economic losses. Shielding failure is an important issue in addressing the lightning performance of overhead transmission lines. In this paper an improved method based on the electrogeometric model is proposed to evaluate the shielding...

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Intelligent system for non-technical losses management in residential users of the electricity sector

Article Full-text available

May 2018

Miguel Uparela Cantillo · Ruben González · Jamer Rene Jimenez Mares · Christian G. Quintero M.

The identification of irregular users is an important assignment in the recovery of energy in the distribution sector. This analysis requires low error levels to minimize non-technical electrical losses in power grid. However, the detection of fraudulent users who have billing does not present a generalized methodology. This issue is complex and va...

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Intelligent system for non-technical losses management in residential users of the electricity sector

Article Full-text available

May 2018

Miguel Uparela Cantillo · Ruben D. Gonzalez · Jamer Rene Jimenez Mares · Christian G. Quintero M.

The identification of irregular users is an important assignment in the recovery of energy in the distribution sector. This analysis requires low error levels to minimize non-technical electrical losses in power grid. However, the detection of fraudulent users who have billing does not present a generalized methodology. This issue is complex and va...

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Instrumentación electrónica aplicada

Book

Mar 2018

Christian G. Quintero M. · JOSÉ A. OÑATE LÓPEZ · HUMBERTO J. ARIAS DE LA HOZ

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Control automático aplicado. Prácticas de laboratorio 2da. Edición

Book

Jan 2018

Christian G. Quintero M. · JOSÉ A. OÑATE LÓPEZ · Jamer Rene Jimenez Mares

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Drivers Characterization based on a Signal Analysis of Vehicle Telemetry

Article

Oct 2017

Christian G. Quintero M. · Rafael Medina U. · Alejandro Tapia T.

This paper presents a computational analysis of drivers behaviors by using signals and data generated from a vehicular telemetry system. The proposal diagnoses driver's behaviours looking for potential and dangerous driving manoeuvres. Experimental testing has been performed in real environment around the city of Barranquilla, Colombia. The testing...

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Intelligent driving assistant based on accident risk maps analysis and intelligent driving diagnosis

Conference Paper

Jun 2017

Christian G. Quintero M. · P. Andres C. Cuervo

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A Methodology for Short-Term Load Forecasting

Article

Mar 2017

Christian G. Quintero M. · Jamer Rene Jimenez Mares · Katheryn Donado Mercado

Demand forecasting is important for electrical analysis development by utilities. It requires low error levels in order to reach reliability in electrical analysis. However, the demand for energy has dissimilar profiles variations depending on the type of day, weather conditions and geographical area. For this reason, it is necessary to group those...

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Hybrid Renewable Energy System based on Intelligent Optimization Techniques

Conference Paper [Full-text available](#)

Nov 2016

Katheryn Donado Mercado · Jamer Rene Jimenez Mares · Christian G. Quintero M.

Renewable Energy Systems (RES) are essential for sustainable development of the society. Since the nature of some RES is intermittent, the reliability of a RES increases, working with hybrid renewable energy systems. This paper proposes to use intelligent technologies to optimally size a hybrid renewable energy system using solar and wind power. Us...

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Intelligent management of hierarchical behaviors using a NAO robot as a vocational tutor

Conference Paper

Sep 2016

Christian G. Quintero M. · Selene Goenaga · Jesus Vasquez

This paper focuses on the development of an intelligent system which manages hierarchical behaviors using a NAO robot as a Vocational Tutor. Selected behaviors were classified and categorized into four personality profiles. Experimentation under three case studies showed the suitable management of different behaviors, throughout the four personalit...

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Dynamic Manager for Electrical Energy Efficiency in Buildings

Conference Paper [Full-text available](#)

Nov 2015

Christian G. Quintero M. · Jamer Rene Jimenez Mares

This paper studies a management model for electrical energy efficiency that allows the integration of several alternatives energy generation sources such as wind, photovoltaic and fuel cell power in order to minimize the

power consumption in a building. An intelligent approach is presented to manage the power consumption of appliances. This approac...

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PAULA: Multi-agent architecture for coordination of intelligent agent systems

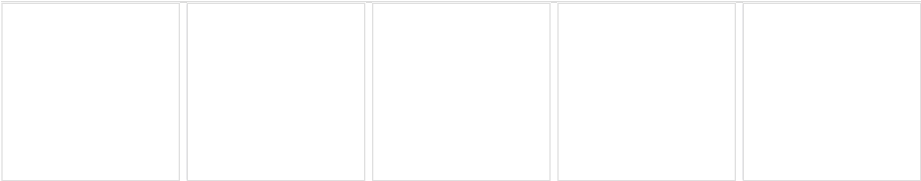
Article

Mar 2015

● Salvador Ibarra Martínez · ● Christian G. Quintero M. · ● J.A. Ramon · [...] · ● J. Castan

This paper describes an architecture named PAULA that enables coordination of autonomous agents by means of knowledge based on the agents' perception about cooperative environments. Autonomous agents are then classified into supervisor agents and physical agents. In addition, a method to improve cooperative task performance has been designed using...

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Introspection on control-grounded capabilities. Relevance in task allocation problems

Article

Full-text available

Mar 2015

● Christian G. Quintero M. · ● Dídac Busquets · ● Peplluis R. Esteva · ● Josep Vehí

Our proposal is aimed at achieving reliable task allocation in cooperative agent-controlled systems by means of introspection on control-oriented features. This new approach is beneficial as it improves the way agents can coordinate with each other to perform the proposed tasks in a real cooperative environment. Introspection aims at including reli...

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Expert-Driving-Criteria Based on Fuzzy Logic Approach for Intelligent Driving Diagnosis

Conference Paper

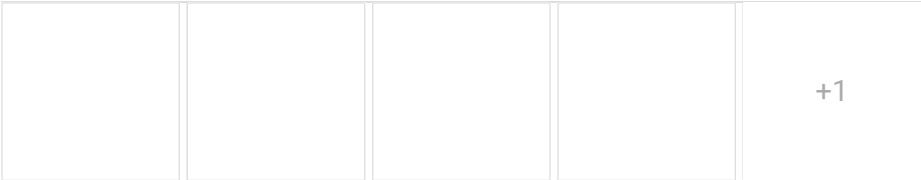
Full-text available

Jul 2014

● Christian G. Quintero M. · ● Andrés C. Cuervo Pinilla · ● Chinthaka Premachandra

This paper considers people's driving skills diagnosis under real driving conditions. In that sense, this research presents an approach that uses GPS signals which have a direct correlation with driving maneuvers. Besides, it is presented a novel expert-driving-criteria approximation using fuzzy logic which seeks to analyze GPS signals in order to...

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Intelligent driving diagnosis based on a fuzzy logic approach in a real environment implementation

Conference Paper

Full-text available

Jun 2014

● Christian G. Quintero M.

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Using genetic algorithm feature selection in neural classification systems for image pattern recognition

Article

Full-text available

Apr 2013

● Christian G. Quintero M.

Pattern recognition performance depends on variations during extraction, selection and classification stages. This paper presents an approach to feature selection by using genetic algorithms with regard to digital image recognition and quality control. Error rate and kappa coefficient were used for evaluating the genetic algorithm approach Neural n...

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Using genetic algorithm feature selection in neural classification systems for image pattern recognition

[Article](#) [Full-text available](#)

Apr 2013

 Margarita Gamarra ·  Christian G. Quintero M.

Pattern recognition performance depends on variations during extraction, selection and classification stages. This paper presents an approach to feature selection by using genetic algorithms with regard to digital image recognition and quality control. Error rate and kappa coefficient were used for evaluating the genetic algorithm approach Neural n...

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Intelligent Management of Alternative Energy Sources Based on Fuzzy Logic

[Article](#) [Full-text available](#)

Mar 2013

 Christian G. Quintero M. ·  José Ledesma ·  Jamer Rene Jimenez Mares


— This paper aims to evaluate the use of SoftComputing techniques, specifically Fuzzy Logic for the development of a management system for alternative energy sources such as wind, photovoltaic and fuel cell. The basis of a hybrid generation system checks its response availability, reliability and power supply taking into account the environmental c...

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Intelligent Exploration and Surveillance Algorithms for Multi-Agents Robotics Systems.

[Conference Paper](#)

Oct 2012

 Christian G. Quintero M.




In this work are considered two problems in a multi-agent robotics surveillance scenario, exploration and surveillance, with which intruder entities must be detected and tracked. The goals are minimize the overall exploration time and increase the time in which intruders are tracked by the agents in a static environment. An intelligent approach is...

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Intelligent system for efficient management of electrical energy

[Conference Paper](#)

Oct 2012

 Christian G. Quintero M. ·  Yoly P. Trivino Barrios ·  Eduardo R. Terraza Rivera

This paper presents an intelligent system based on Back Propagation (BP) Neural Network implementation that aids to decrease power consumption in three different environments: Residential, Commercial and Industrial. A graphical interface was designed to provide the user with detailed information on consumption of the devices installed in each of th...

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Towards an intelligent management approach for power consumption in buildings case study

[Conference Paper](#)

Oct 2012

 Christian G. Quintero M. ·  Jamer Rene Jimenez Mares

The power consumption in buildings represent a 30-40% of the final energy usage, which is caused by: HVAC (Heating, ventilation and air conditioning), lighting and appliances with any connection to the power grid. The major challenge is to minimize the power consumption by optimizing the operation of several loads without impact in the customer's c...

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An analysis of Intelligent Demand Management criteria applied in a building case study

[Conference Paper](#)

Oct 2012

 Christian G. Quintero M. ·  Jamer Rene Jimenez Mares

The power consumption in buildings represent a 30-40% of the final energy usage, which is caused by: HVAC (Heating, Ventilation and Air Conditioning), lighting and appliances with any connection to the power grid. The major challenge is to minimize the power consumption by optimizing the operation of several loads without impact in the customer's c...

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Driver behavior classification model based on an intelligent driving diagnosis system

[Conference Paper](#)

Sep 2012

 Christian G. Quintero M. ·  Jose Onate Lopez ·  Andres C. Cuervo Pinilla

This paper considers the problem of characterize the way people drive applied to driver assistance systems and integrated safety systems without using direct driver signals. To make this, is proposed the design of a driver behaviors classifier based on a previous intelligent driving diagnosis system development by us [1]. This, take into account si...

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Intelligent driving diagnosis system applied to drivers modeling and high risk areas identification. An approach toward a real environment implementation

[Conference Paper](#)

Jul 2012

Christian G. Quintero M. · Jose Onate Lopez · Andres C. Cuervo Pinilla

This paper considers the problem of characterize the way people drive applied to driver assistance systems without using direct driver signals. To make this, was developed an intelligent driving diagnosis system based on neural networks [2]. This take into account signals that can be acquired by a GPS data logging system: position, velocity, accele...

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Intelligent approaches for effective feature selection in image pattern recognition

[Conference Paper](#)[Full-text available](#)

Oct 2011

Margarita Gamarra · Christian G. Quintero M.

In pattern recognition is necessary to have a number of features to identify each class. This article presents approaches for feature selection and classification in pattern recognition in digital images using intelligent algorithms. The question to work, a theoretical framework and related work on the subject are developed, experiments are propose...

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Coordination mechanisms for a multi-agent robotic system applied to search and target location

[Conference Paper](#)

Oct 2011

Christian G. Quintero M. · Jose A. Onate Lopez · R. Francisco A. Bertel

In this paper we consider the problem of searching an unknown number of targets in static environment by a team of robots. As the targets positions and distribution are uncertain; the goal is to minimize the overall exploration time. Using cell maps, the key problem can be solved choosing the suitable cell for the individual robots so that they sim...

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Space allocation using intelligent optimization techniques

[Conference Paper](#)

Oct 2010

E. Rafael Q. Garcia · Christian G. Quintero M.

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Intelligent erratic driving diagnosis based on artificial neural networks

[Conference Paper](#)[Full-text available](#)

Oct 2010

Christian G. Quintero M. · Jose A. Onate Lopez · Juan-Manuel Pérez-Rúa

This paper presents an intelligent system to perform an erratic driving diagnosis. The proposed approach takes into account the analysis of the signals that could be acquired from modern on-board diagnostic systems (OBD-II), global positioning systems (GPS) and other localization sensors. Diagnosis of erratic driving could be essential to reduce ac...

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Coordination mechanisms for tracking and surveillance in multiagent environments

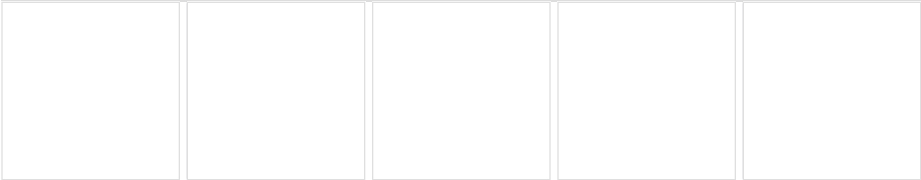
[Article](#)

Sep 2010

Christian G. Quintero M. · F. A. Bertel R · Pablo Maldonado E

The use of multiagent techniques to support the human activities has been increasing for many years, especially in coordination mechanisms for environments monitoring. Then, we propose a coordination mechanism applied to intelligent surveillance methods. The approach aims to increase the time in which agents are able to ensure intruder's tracking....

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A Real Time Approach for Task Allocation in a Disaster Scenario

[Conference Paper](#) [Full-text available](#)

Jan 2010

Silvia A. Suárez B. · Christian G. Quintero M. · Peplluis R. Esteva

A disaster scenario is a very dynamic environment where agents have to face surrounding environmental changes constantly. In this kind of scenarios, the quality of the tasks allocation is highly relevant because every minute spent reduces the chance of successfully rescuing the victims. In this approach, a real time sequencing technique is presente...

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Control architecture for intelligent offices: an approach based on Neuro-Fuzzy systems

[Conference Paper](#)

Jul 2009

Christian G. Quintero M. · Jorhabib Eljaik

Our proposal is aimed at achieving a reliable control architecture for intelligent environments. This approach is implemented in a professor's simulated office. To that end, adaptive Neuro-Fuzzy training of Sugeno-type fuzzy inference systems are used. Experimental results and conclusions are shown, stressing the relevance of this approach inspired...

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Jul 2008

Peplluis R. Esteva · Albert Figueras · Christian G. Quintero M. · [...] · Santiago Esteva

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Jan 2007

 Christian G. Quintero M. ·  Salvador Ibarra Martínez ·  Peplluis R. Esteva ·  Josep Vehí

Our proposal is aimed at achieving reliable task allocation in physical multi-agent systems by means of introspection on their dynamics. This new approach is beneficial as it improves the way agents can coordinate with each other to perform the proposed tasks in a real cooperative environment. Introspection aims at including reliable physical knowl...

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 Salvador Ibarra Martínez ·  Christian G. Quintero M. ·  Peplluis R. Esteva ·  Jose A. R. Castan

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Jan 2006

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This paper presents a method called "Situation Matching" that aids to improve cooperative tasks in heterogeneous multi-agent systems. The situation matching (SM) above represent a match between the system requirements and the agents' capabilities. In this sense, the agents have a set of information denoted "Agent Situation" by means of three parame...

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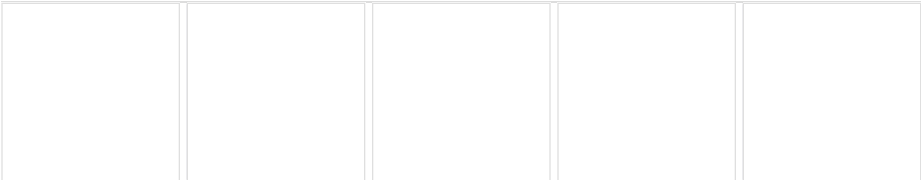
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Jan 2004

Jian Wan · Christian G. Quintero M. · Nianbei Luo · Josep Vehí

This paper discusses predictive motion control of a MiRoSoT robot. The dynamic model of the robot is deduced by taking into account the whole process - robot, vision, control and transmission systems. Based on the obtained dynamic model, an integrated predictive control algorithm is proposed to position precisely with either stationary or moving ob...

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