

CALL FOR PAPERS

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IEEE Computational Intelligence Society Colombian Chapter and IEEE Colombia Section have the cyber-space as the venue for the IEEE Colombian Conference on Applications of Computational Intelligence CoIACACI 2021. Like the previous version, the conference seeks to become the most important event in computational intelligence and related fields in Colombia and other countries around, putting together academic, scientific, and industry.

During the past decade, CoIACACI has gained national and international recognition for its potential to receive contributions from important cities in Latin America. Three before editions have been shown how the CI area can have a hub in this conference and share knowledge about the direct applications in our context.

We hope that local academy and industry will take active participation in IEEE CoIACACI 2021. Papers will be reviewed by an international technical committee under the IEEE standard procedure and accepted papers must be presented in oral session. This process is mandatory for the paper to be published in the conference proceedings (IEEE Xplore database, including ISBN).

TOPICS

We encourage the submission of original, unpublished research focused on (but not limited to) the following topics of interest:

NEURAL NETWORKS AND LEARNING MACHINES

Cognitive models
Neural control and planning
Self-organization
Deep learning
Neural networks theory
Bayesian networks
Bayesian learning and approximate inference
Kernel methods
Generative models
Information theoretic learning
Reinforcement learning
Feature extraction and manifold learning
Data mining
Pattern recognition and machine learning

FUZZY SETS AND SYSTEMS

Fuzzy control, robotics, sensors, hardware and architectures
Fuzzy data analysis
Fuzzy clustering
Classification and pattern recognition
Fuzzy systems with big data and cloud computing
Fuzzy systems design and optimization
Fuzzy decision analysis
Fuzzy logic and its application in Industrial engineering
Fuzzy modelling, identification and fault detection
Fuzzy information processing
Fuzzy web engineering
Fuzzy image, speech and signal processing
Fuzzy sets and soft computing in social sciences
Fuzzy logic applications in civil engineering, geographical information systems

EVOLUTIONARY AND SWARM ALGORITHMS

Memetic and collective intelligence
Artificial Immune Systems
Metaheuristics and hyper-heuristics
Ant colony for neural networks optimization
Bio-inspired computing and Evolutionary algorithms
Chaos theory in genetic algorithms
Genetic fuzzy systems
Genetic neural systems
Multi-objective optimization
Hybrid optimization techniques
Hybrid intelligent systems for pattern recognition
Nature-inspired smart hybrid systems
Neuro-Fuzzy-Genetic approaches
Neural Agents

OTHER APPLICATIONS OF CI

Industry 4.0
Robotics
Internet of things
Artificial Intelligence
Biomedical engineering applications
Image and signal processing
Natural language processing
Big data and scalable algorithms/applications
Smart grid applications
Intelligent transportation
Smart traffic system operations
Bioinformatics
Brain computer interfaces
Neurosciences
Neural hardware Education

IMPORTANT DATES

Submission: ~~March 5th~~ March 19th, 2021
Notification: ~~April 9th~~ April 16th, 2021
Camera-ready: April 30th, 2021
Conference: May 26th - 28th, 2021

PAPER SUBMISSION

We invite authors to submit high-quality full papers reporting original and novel research results on all above topics. Papers must be written in **Spanish, Portuguese or English**, unpublished and not submitted elsewhere. Full papers must be formatted as the standard IEEE double-column conference template and submitted exclusively using the link <https://easychair.org/conferences/?conf=ieeecolcaci2021>. Maximum 6 pages are allowed for each paper, including all illustrations and references.