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Special Issue on: "Computational Intelligence"

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The aim of special issue is to raise awareness about Computational Intelligence among the research communities. Traditional computing methods deal with a vast range of applications related to reasoning, decision making, perception building etc. However Computational Intelligence (CI) deals with dynamical systems more efficiently by embedding and facilitating learning mechanisms. Most of the data obtained in real time environments from various domains i.e. environment, industry, business, biology involves lots of imprecision and vagueness. To address these issues various algorithms, tools or techniques are required which should be adaptive and robust so that they can handle the uncertainty and dynamic nature of the system in efficient and optimised way.

"CI is a set of biological and linguistic tools and methodologies to address complex real-world problems to which traditional AI approaches may not be very effective. CI comprises of concepts and implementations that ensures intelligent behaviour in complex and dynamic environment."

"Neural Network, Genetic Algorithms, Fuzzy systems, evolutionary programming and artificial life are the building blocks of Computational Intelligence."------**By Robert J. Marks**

CI tools enable us to build the systems which are prone to adaption, robust across problem domains, apply extrapolated reasoning and behave intelligently in a given state. Major constituents of CI are neural network, evolutionary algorithms, fuzzy systems, and hybrid intelligent systems. Neural network techniques provide capability of computational adaption. A system can improve its parameters without any intervention based on optimising criteria same as human learning occurs. Fuzzy systems help in defining the system where we have a rough estimate of the system requirements. Evolutionary algorithms are good enough to optimise parameters and select best among the given constraints. The synergistic effect of these tools may increase their individual performances and gives better adaptive and highly reliable systems. Knowledge representation, reasoning, information mining, discovery science, web intelligence, semantic web, multi agent

systems and designing of products i.e. air conditioners, automobile systems, cameras, dishwashers, pattern recognition in remote sensing, video game, are the major areas where CI can be very helpful.

Subject Coverage

Topics include, but are not limited to, the following:

- Computational intelligence
- Neural networks
- Evolutionary algorithms
- Genetic algorithms
- Fuzzy knowledge systems
- Optimisation algorithms
- Neuro-fuzzy systems
- Industrial applications of computational intelligence
- Big data analytics
- Intelligent social informatics
- Data mining and visualisation
- Bioinformatics
- Industrial sensing intelligence
- Intelligent information retrieval
- Pattern recognition, image and video processing
- Game theory
- Intelligent signal processing
- Industrial automation
- Swarm intelligence
- Intelligent agents, systems and control
- Machine learning algorithms
- Human machine interaction
- Experts systems, learning and adaptive control
- Intelligent monitoring systems
- Technologies in industrial automation
- Healthcare systems
- Internet of things and cyber physical system
- Smart grid and smart vehicles
- Natural language processing
- Modelling and simulation

Notes for Prospective Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. (N.B. Conference papers may only be submitted if the paper has been completely re-written and if appropriate written permissions have been obtained from any copyright holders of the original paper).

All papers are refereed through a peer review process.

All papers must be submitted online. Please read our Submitting articles page.

Important Dates

Manuscripts due by: *31 March, 2018*

Notification to authors: *31 May, 2018*

Final versions due by: *31 July, 2018*