

Computational Intelligence Society



Nature-Inspired Problem Solving • cis.ieee.org

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(Online Version)



Welcome from the President

Nikhil R. Pal President of the IEEE Computational Intelligence Society (2018-2019)

It is a great honor and privilege for me to serve as the President of the IEEE Computational Intelligence Society (CIS), beginning January 2018. I am deeply grateful to the Administrative Committee for providing me this great opportunity to serve our membership. The outgoing president, as well as, his predecessors have led the society to a great shape. We have an outstanding set of publications and a large array of premier conferences covering all aspects of computational intelligence (CI). But time brings new challenges to



be addressed and always there are scopes for further improvement. Before I say a few words about some of the areas where there are abundant opportunities to work, I want to pay my tribute to Prof. Lotfi A. Zadeh, whom we lost on September 6, 2017.

Prof. Zadeh was not only a great scientist, but also a philosopher, thinker, and above all a great human being. It is a great loss to the scientific community. Prof. Zadeh introduced the revolutionary concept of fuzzy sets, which provides a wonderful vehicle for modelling and processing of imprecise information to develop comprehensible decision making systems. Fuzzy logic is one of the three main pillars of computational intelligence; the other two pillars are neural networks and evolutionary computing. Fuzzy logic has found its application in diverse areas including control, medicine and health care, weather modelling, defence, consumer products, and computer vision. Just to get a feel of how strongly fuzzy logic has influenced us, I made a Google Scholar search with "fuzzy logic" (December 21, 2017) and it immediately retrieved 883,000 items! Prof. Zadeh was very closely related to us, to our society, and he will continue to remain so in our heart.

CI technologies have come a long way with plenty of success stories, ye opportunities to explore and enhance CI tools and techniques to develop machines". Although we have systems based on deep learning and other technologies that can yield unrivalled performance in recognition tasks or even can outperform the best human

Important Message

★ Proposals for IEEE CEC or FUZZ-IEEE in 2021

Proposals for the organization of IEEE CEC or FUZZ-IEEE in 2021 must be submitted as soon as possible, and no later than Mar. 15, 2018. Policies, procedures and budget worksheet for such proposals are available. More detailed guidelines can be obtained upon request to Bernadette Bouchon-Meunier.

CIS Conferences

- ★ Conference Calendar (2018-2019)

 ★ 2018 IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications (CIVEMSA 2018)

> Ottawa, Canada Jun. 12-14. 2018

(Submission: Feb. 4)

on Computational Intelligence (WCCI 2018)

Go player, in my opinion, we are yet to see the best. Some of these systems take inspiration from the brain, but usually the system architecture as well as the low level processing are far from the way human brain functions. In my view, unless such systems exploit some of the attributes of brain (that are known), it would be difficult to achieve human-like cognitive and reasoning abilities. This is an area where CI can contribute tremendously. There are other areas such as computing with words, not necessarily fuzzy sets based approaches, where we also need to focus more research effort.

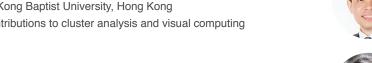
Let us work together to take CI at the next level. In the next two years, I look forward to working with you all to provide the best possible values to our community. Among other things, I shall try to work with the CIS Administrative Committee to take initiatives for attracting more young students and researchers not only to CI research, but also to involve them in CIS activities. This will provide a pathway to grow future CI leaderships. I shall follow the footsteps of my predecessors, to make CIS as the most attractive home for anyone interested in any aspect of CI. If any member has any suggestion that can help the society to move forward, you are requested to email me at nrpal59@gmail.com. We shall try our best to accommodate your suggestions.

2018 Newly Elevated IEEE Fellows in CIS

IEEE Fellow is a distinction reserved for select IEEE members who have achieved remarkable results and outstanding performance. Congratulations to the 2018 Newly Elevated IEEE Fellows in CIS:

Yiu-ming Cheung

Hong Kong Baptist University, Hong Kong for contributions to cluster analysis and visual computing



Oscar Cordon

University of Granada, Spain for contributions to genetic and evolutionary fuzzy systems

Xinping Guan

Shanghai Jiao Tong University, China for contributions to stability analysis for time-delay fuzzy systems and intelligent control of nonlinear systems

Haibo He

University of Rhode Island, USA for contributions to adaptive learning

Li-cheng Jiao

Xidian University, China for contributions to artificial neural networks and evolutionary computation

Jie Lu

University of Technology Sydney, Australia for contributions to fuzzy machine learning and decision support systems













Chuan-Kang Ting

Rio de Janeiro, Brazil Jul. 8-13, 2018 (Paper Submission: Jan. 15)

2018 IEEE Conference on Computational Intelligence and Games (CIG 2018) Maastricht, The Netherlands

Aug. 14-17, 2018 (Submission: Mar. 15)

2018 Joint IEEE International Conference on **Developmental Learning** and Epigenetic Robotics (ICDL-EpiRob 2018) Tokyo, Japan

Sep. 17-20, 2018

🚖 2018 IEEE Latin American Conference on Computational Intelligence (LA-CCI 2018)

Guadalajara, Mexico Nov. 7-9, 2018

2018 IEEE Symposium Series on Computational Intelligence (SSCI 2018) Bangalore, India

Nov. 18-21, 2018

2018 IEEE International Conference on Data Science and Advanced Analytics (DSAA 2018) Turin, Italy

Dec. 1-3, 2018

2019 IEEE Congress on **Evolutionary Computation** (CEC 2019)

Wellington, New Zealand Jun. 10-13, 2019



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Nanyang Technological University, Singapore for contributions to memetic computation and applications



Hava Siegelmann University of Massachusetts, USA for contributions to neural computation



■ 5 Minutes with Prof. Pablo A. Estevez

IEEE CIS Student Activities Subcommittee invites you to get to know the pioneers and experts in the Computational Intelligence. This month "5 minutes with..." focuses on Past President of the IEEE CIS, **Prof. Pablo A. Estevez**.

- What is your title, full name, and place of work?
 Pablo A. Estevez, Professor (University of Chile) and
 Associate Researcher (Millennium Institute of
 Astrophysics), Chile
- 2. What grade of member in CIS are you? Fellow member
- 3. How long have you been a member of CIS? Since its inception
- One reason why you are a member of CIS
 It is such a fun, exciting research topics and wonderful people
- What was you service pathway in the Computational Intelligence Society?Chapter chair, DLP chair, ADCOM member at large, VP Members Activities, President
- 6. Can you share with us one success story that will motivate young members and provide useful guidelines for their careers?

 It was not until 2009 that I had my first approach to astronomy and it was absolutely by chance. I went to a symposium in southern Chile, where Pavlos Protopapas, an astronomer from Harvard gave a talk on machine learning applications to astronomy. That was an Eureka moment for me, since I thought I could apply my research to this science. Shortly after, Pablo Huijse (a graduate student at that time) and Pablo Zegers (Universidad de Los Andes) joined our team. From that moment on we were known world-wide as "The Pablos". Later a fifth collaborator, Prof. Jose Príncipe, University of Florida, made us reconsider our team name to P4J: "four Pablos and one Jose". In fact, currently there is a software code called P4J, result of this productive collaboration and which contains the algorithms created by our team to detect periods is stellar time series https://github.com/phuijse/P4J.



Educational Activities

2018 Graduate Student Research Grants

The IEEE CIS is inviting applications for funding opportunity, for deserving undergraduate, graduate and PhD students who need financial support to carry out their research during an academic break period. Any student with a meritorious project is invited to apply, but



scholarships will be granted only to applicants who are student members of the IEEE CIS and students at the time the scholarship is awarded.

The primary intent of these scholarships is to cover the expenses related to a visit to another university, institute or research agency for collaboration with an identified researcher in the field of interest of the applicant. Funds can



be used to cover travel expenses as well as certain living expenses (such as housing). The field of interest of applicants is open, but should be connected with identifiable component of the CIS (neural networks, fuzzy systems, or evolutionary computation).

The amount of a CIS scholarship varies from \$1,000 to \$4,000. We expect to award 3-5 scholarships, but it depends on the budget approved by CIS ADCOM. Deadline for submission of applications is **Mar 15, 2018**. Please refer to the details or contact Bing.Xue@ecs.vuw.ac.nz.

Call for Papers (Journal)

- IEEE CIM Special Issue on Computational Intelligence for Affective Computing and Sentiment Analysis (Mar 31)
- IEEE CIM Special Issue on Deep Reinforcement Learning and Games (Oct 1)
- IEEE TETCI Special Issue on Computational Intelligence in Data-Driven Optimization (Jan 31)
- IEEE TG Special Issue on Game Competition Frameworks for Research and Education (Jan 8)

Call for Papers (Conference)

- WCCI 2018 Special Session on Memetic Computing (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence for Music, Art, and Creativity (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence for the Automated Design of Machine Learning and Search (Jan 15)
- WCCI 2018 Special Session on Evolutionary Computation in Healthcare Industry (Jan 15)
- WCCI 2018 Special Session on When Evolutionary Computation Meets Data Mining (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence methods for Natural Language Processing (Jan 15)
- WCCI 2018 Special Session on the Role of Computational Intelligence Technologies in Controlling Borders (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence for Bioinformatics and Computational Biology (Jan 15)
- WCCI 2018 Special Session on Evolutionary Computation in Dynamic and Uncertain Environments (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence for Cognitive-Cyber-Physical Autonomous Systems (Jan 15)
- WCCI 2018 Special Session on Evolutionary Computation in Co the Energy Domain (Jan 15)
- WCCI 2018 Special Session on Differential Evolution: Past, Present and Future (Jan 15)

- WCCI 2018 Special Session on Computational Intelligence to Data Engineering and Its Applications to Real-World Problems (Jan 15)
- WCCI 2018 Special Session on Evolutionary Multi-objective Optimization based on Decomposition (Jan 15)
- WCCI 2018 Special Session on Recent Advances in Evolutionary Computation for Permutation Problems (Jan 15)
- WCCI 2018 Special Session on Nature-Inspired Constrained Optimization (Jan 15)
- WCCI 2018 Special Session on Parallel and Distributed Evolutionary Computation in the Inter-Cloud Era (Jan 15)
- WCCI 2018 Special Session on Fireworks Algorithm and Its Applications (Jan 15)
- WCCI 2018 Special Session on Brain Storm Optimization Algorithms (Jan 15)
- WCCI 2018 Special Session on Evolutionary Computation for Feature Selection, Extraction and Dimensionality Reduction (Jan 15)
- WCCI 2018 Special Session on Transfer Learning in Evolutionary Computation (Jan 15)
- WCCI 2018 Special Session on Computational Intelligence for Sensing and Predicting Human Mental and Medical State (Jan 15)
- WCCI 2018 Workshop on the Ethics and Social Implications of Computational Intelligence (Jan 15)
- IEEE Conference on Evolving and Adaptive Intelligent Systems (EAIS 2018) (Jan 20)
- Asian Conference on Affective Computing and Intelligent Interaction (Jan 10)
- International Symposium on Neural Networks (ISNN 2018) (Jan 15)
- International Conference on Swarm Intelligence (ICSI 2018) (Jan 30)
- International Conference of Data Mining and Big Data (DMBD 2018) (Jan 30)
- International Conference on Information Science and Technology (ICIST 2018) (Feb 1)
- International United Kingdom Automatic Control Council (UKACC) Conference on Control (Mar 1)

■ Call for Participation

- Subreddit: Computational Intelligence Courses
- International Conference on Agents and Artificial Intelligence (ICAART), Madeira, Portugal (Jan 16-18)

Career Opportunities

- 12 PhD Scholarships in Intelligent Games and Game Intelligence, UK (Jan 31)
- Faculty Positions at All Levels in Computing at UL Lafayette, USA (Open until Filled)
- PhD Scholarship in EECS, South Dakota State University, USA (Feb)

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