



2018 IEEE Award

Congratulations! Dr. Enrique H. Ruspini wins 2018 IEEE Frank Rosenblatt Award

The IEEE Frank Rosenblatt Award is a Technical Field Award established by the Institute of Electrical and Electronics Engineers Board of Directors in 2004. This award is presented for outstanding contributions to the advancement of the design, practice, techniques, or theory in biologically and linguistically motivated computational paradigms, including neural networks, connectionist systems, evolutionary computation, fuzzy systems, and hybrid intelligent systems in which these paradigms are contained.



We are pleased to announce that **the 2018 recipient of the IEEE Frank Rosenblatt Award is Dr. Enrique H. Ruspini, for his fundamental contributions to the understanding of fuzzy logic concepts and their application.** In 2001, Enrique was the President of the IEEE Neural Network Council, the predecessor of the IEEE Computational Intelligence Society (CIS) and he is currently the VP Finance of the IEEE CIS.

Announcement

New Editor-in-Chief of the IEEE Transactions on Games

I'm very happy to announce that Professor **Julian Togelius**, Department of Computer Science and Engineering at the New York University Tandon School of Engineering, has been appointed as the new Editor-in-Chief of the IEEE Transactions on Games (TG). This past year, CIS proposed and succeeded in changing the name of the IEEE Transactions on Computational Intelligence and AI in Games to the IEEE Transactions on Games along with a simplified scope that matches the name.



Julian will take over TG beginning January 1, 2018. We all owe outgoing EiC of TCIAIG, Professor Graham Kendall, School of Computer Science at the University of Nottingham, UK, currently the Provost and CEO of University of Nottingham Malaysia Campus, our heartfelt thanks for shepherding TCIAIG this past year during the efforts to streamline the name and scope of the journal.

Jim Keller, Vice President of Publications

Important Message

★ Proposals for IEEE CIS Conferences in 2019

Proposals for the organization of IEEE CIS financially sponsored conferences in 2019 must be submitted as soon as possible, and no later than **Dec. 31, 2017**. [\(Details\)](#)

★ Call-for-Proposals: Activity Promotion Grants

IEEE CIS has strategic plans to promote member activities through chapters and set up an activity promotion grant. We accept proposals until **Dec. 1, 2017** or the funding has all been used up. [\(Details\)](#)

★ Call for Senior Member Applications

The IEEE CIS Senior Members Subcommittee encourages you to consider applying to become a Senior Member, and we can assist you with the senior member promotion. [\(Details\)](#)

CIS Conferences

★ Conference Calendar (2017-2018)

★ 2017 IEEE Latin American Conference on Computational Intelligence

2018 IEEE World Congress on Computational Intelligence

Nov. 8-10, 2017

Call for Special Sessions / Tutorials / Competitions / Workshops

The IEEE World Congress on Computational Intelligence (IEEE WCCI) is the largest technical event in the field of computational intelligence. The IEEE WCCI 2018 will host three conferences: The 2018 International Joint Conference on Neural Networks (IJCNN 2018), the 2018 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2018), and the 2018 IEEE Congress on Evolutionary Computation (IEEE CEC 2018). It encourages cross-fertilization of ideas among the three big areas and provides a forum for intellectuals from all over the world to discuss and present their research findings on computational intelligence.



Special Sessions: Special session proposals should include the title, aim and scope (including a list of main topics), a short biography of all organizers, and a list of potential contributors. All special sessions proposals should be submitted to the Special Sessions Co-Chairs according to the most appropriate topic.

Tutorials: Tutorials offer a unique opportunity to disseminate in-depth information on specific topics in computational intelligence. If you are interested in proposing a tutorial, would like to recommend someone who might be interested, or have questions about tutorials, please contact the Tutorials Co-Chairs.

Competitions: Prospective competition organizers are invited to submit their proposals to the Competitions Co-Chairs.

Workshops: The overall purpose of a workshop is to provide participants with the opportunity to present and discuss novel research ideas on active and emerging topics of Computational Intelligence. Prospective workshop organizers are invited to submit their proposals to the Workshops Co-Chairs.

Important Dates:

- Special Session & Workshop Proposals Deadline: Dec 15, 2017
- Tutorial & Competition Proposals Deadline: Dec 15, 2017
- Paper Submission Deadline: Jan 15, 2018

For more information, please visit <http://www.ieee-wcci.org/>.

★ 2017 IEEE Symposium Series on Computational Intelligence (SSCI 2017)
Hawaii, USA
Nov. 27-Dec. 1, 2017

★ 2018 IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB 2018)
Missouri, USA
May 30-Jun. 2, 2018

★ 2018 IEEE World Congress on Computational Intelligence (WCCI 2018)
Rio de Janeiro, Brazil
Jul. 8-13, 2018
(SS/Wksp Proposal: Dec. 15)

★ 2018 IEEE Conference on Computational Intelligence and Games (CIG 2018)
Maastricht, The Netherlands
Aug. 14-17, 2018

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Research Frontier

Benchmarking Ensemble Classifiers with Novel Co-Trained Kernel Ridge Regression and Random Vector Functional Link Ensembles

Studies in machine learning have shown promising classification performance of ensemble methods employing "perturb and combine" strategies. In particular, the classical random forest algorithm performs the best among 179 classifiers on 121 UCI datasets from different domains. Motivated by this observation, we extend our previous work on oblique decision tree ensemble. We also propose an efficient co-trained kernel ridge regression method. In addition, a random vector functional link network ensemble is also introduced. Our experiments show that our two oblique decision tree ensemble variants and the co-trained kernel ridge regression ensemble are the top three among the 183 classifiers. The proposed random vector functional link network ensemble also outperforms all neural network based methods used in the experiments.



Multiobjective Evolutionary Optimization of Type-2 Fuzzy Rule-Based Systems for Financial Data Classification

With the aim of achieving high accuracies, preserving the interpretability, and managing uncertain and unbalanced data, this paper presents a novel method to deal with financial data classification by adopting type-2 fuzzy rule-based classifiers (FRBCs) generated from data by a multiobjective evolutionary algorithm (MOEA). The classifiers employ an approach, denoted as scaled dominance, for defining rule weights in such a way to help minority classes to be correctly classified. In particular, we have extended PAES-RCS, an MOEA-based approach to learn concurrently the rule and data bases of FRBCs, for managing both interval type-2 fuzzy sets and unbalanced datasets. To the best of our knowledge, this is the first work that generates type-2 FRBCs by concurrently maximizing accuracy and minimizing the number of rules and the rule length with the objective of producing interpretable models of real-world skewed and incomplete financial datasets.



IEEE Transactions on Fuzzy Systems, Apr. 2017

Ahura: A Heuristic-Based Racer for the Open Racing Car Simulator

Designing automatic drivers for car racing is an active field of research in the area of robotics and artificial intelligence. A controller called Ahura (a heuristic-based racer) for the open racing car simulator is proposed in this paper. Ahura includes five modules, namely steer controller, speed controller, opponent manager, dynamic adjuster, and stuck handler. These modules have 23 parameters all together that are tuned using an evolutionary strategy for a particular car to ensure fast and safe drive on different tracks. These tuned parameters are further modified by the dynamic adjuster module during the run according to the width, friction, and dangerous zones of the track. The dynamic adjustment enables Ahura to decide on-the-fly based on the current situation; hence, it eliminates the need for prior knowledge about the characteristics of the track.



IEEE Transactions on Computational Intelligence and AI in Games, Sep. 2017

5 Minutes with Dr. James C. Bezdek

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 pioneer **Dr. James C. Bezdek**.

1. What is your title, full name, and place of work?
Dr. James C. Bezdek, Honorary Senior Fellow, University of Melbourne
2. What grade of member in CIS are you?
LIFE fellow
3. How long have you been a member of CIS?
Since 1991



4. One reason why you are a member of CIS:
It represents the research areas I am interested in.
5. What was your service pathway in the Computational Intelligence Society?
Invitation (by Robert Marks) to join.
6. Can you share with us one success story that will motivate young members and provide useful guidelines for their careers?
The story and my advice are the same: you get what you pay for in life, so be prepared to work hard for you want.
7. Give one interesting fact about yourself:
My grandfather (Hugo F. Bezdek) is the only person who was the head coach of both professional football (Chicago) and baseball (Pittsburg) teams.

[Read more](#)

Technical Activities

Fuzzy Systems Technical Committee

The main goal of the Fuzzy Systems Technical Committee (FSTC) for this year is to renovate the task forces in order to address the current and emerging areas. We identified the following as the most promising to establish new task forces:

- The importance of data science is widely acknowledged. The importance of fuzzy systems in data science will be stressed and clarified by a task force in this area.
- Robotics regained momentum recently. Some examples are e.g. drones and collaborative robots (co-bots). The role of fuzzy systems in robotics could be enhanced by a task force.
- A strongly related topic is cyber-physical systems. These systems can profit from a fuzzy approach to the area. We expect a new task force in these areas very soon.
- Deep learning is currently a very hot topic in computational intelligence. What are the relations between deep learning and fuzzy systems? Researchers from both areas have a saying on this.
- Fuzzy integrals and fuzzy measures are well established areas, but can be the ground to support other more applied areas. A new task force can foster new areas in these fields.



Call for Papers (Journal)

- [IEEE CIM Special Issue on Computational Intelligence Techniques in Bioinformatics and Bioengineering \(Nov 15\)](#)
- [IEEE CIM Special Issue on Computational Intelligence in Finance and Economics \(Dec 31\)](#)
- [IEEE TCDS Special Issue on Neuro-Robotics Systems: Sensing, Cognition, Learning and Control \(Nov 30\)](#)
- [IEEE TETCI Special Issue on Computational Intelligence in Data Science \(Jan 31, 2018\)](#)
- [IEEE TG Special Issue on Game Competition Frameworks for Research and Education \(Jan 8, 2018\)](#)

Call for Papers (Conference)

- [IEEE World Congress on Computational Intelligence \(WCCI 2018\) \(Jan 15, 2018\)](#)
- [IEEE Conference on Computational Intelligence and Games \(CIG 2018\) \(Mar 15, 2018\)](#)
- [IEEE Conference on Evolving and Adaptive Intelligent Systems \(EAIS 2018\) \(Jan 20, 2018\)](#)
- [European Conference on Genetic Programming \(EuroGP 2018\) \(Nov 1\)](#)
- [International Conference on Advanced Computational Intelligence \(ICACI 2018\) \(Nov 15\)](#)
- [International Symposium on Neural Networks \(ISNN 2018\) \(Jan 15, 2018\)](#)
- [International Conference on Information Science and Technology \(ICIST 2018\) \(Feb 1, 2018\)](#)

Call for Participation

- [Students – you have still time to enter the IEEE CIS "Telling a Story: How your Computational Intelligence Research benefits Society and Humanity" \(Nov 11\)](#)
- [Subreddit: Computational Intelligence Courses](#)
- [Webinar: Bridge: a New Challenge for AI? – Véronique Ventos \(Nov 20\)](#)
- [International Conference on Simulated Evolution and Learning \(SEAL 2017\), Shenzhen, China \(Nov 10-13\)](#)

Career Opportunities

- [Assistant Professor in Computer Science and Systems, University of Washington Tacoma, USA \(Nov 15\)](#)
- [Faculty Positions at All Levels in Computing at UL Lafayette, USA \(Open until Filled\)](#)
- [PhD Scholarship on Machine Learning for Software Engineering, University of Leicester, UK \(Open until Filled\)](#)
- [PhD Scholarship in EECS, South Dakota State University, USA \(Feb, 2018\)](#)

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