



Call for Nominations / Applications for the Position of Editor-in-Chief of the IEEE Transactions on Games

The IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG) will be renamed the IEEE Transactions on Games (TG) in January 2018. It will have a very succinct scope: The IEEE Transactions on Games publishes original high-quality articles covering scientific, technical, and engineering aspects of games.

As a result of the name and scope changes, a new Editor-in-Chief needs to be appointed. The Search Committee is soliciting nominations/applications for this position. Nominees/applicants should be dedicated volunteers with outstanding research profiles and extensive editorial experience. The nomination/application package should be emailed as a single PDF to kellerj@missouri.edu by **Aug. 15, 2017**. ([Details](#))

Jim Keller, Chair of the Search Committee



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](#))

★ Nomination for Distinguished Lecturer

The IEEE CIS DLP committee invites all Society's Technical Committees Chairs, Chapter Chairs, EiCs, and AdCom / ExCom members to nominate Distinguished Lecturers (2018-2020). The nominations should be received by **Aug. 30, 2017**. ([Details](#))

Research Frontier

A Survey of Multiobjective Evolutionary Algorithms Based on Decomposition

MOEA/D proposed by Zhang and Li decomposes a multiobjective optimization problem into a number of scalar optimization subproblems and optimizes them in a collaborative manner using an evolutionary algorithm (EA). Each subproblem is optimized by utilizing the information mainly from its several neighboring subproblems. Since the proposition of MOEA/D in 2007, decomposition-based MOEAs have attracted significant attention from the researchers. Investigations have been undertaken in several directions, including development of novel weight vector generation methods, use of new decomposition approaches, efficient allocation of computational resources, modifications in the reproduction operation, mating selection and replacement mechanism, hybridizing decomposition- and dominance-based approaches, etc. Furthermore, several attempts have been made at extending the decomposition-based framework to constrained multiobjective optimization, many-objective optimization, and incorporate the preference of decision makers. Additionally, there have been many attempts at application of decomposition-based MOEAs to solve complex real-world optimization problems. This paper presents a comprehensive survey of the decomposition-based MOEAs proposed in the last decade.



IEEE Transactions on Evolutionary Computation, Jun. 2017

CIS Conferences

★ Conference Calendar (2017-2018)

★ 2017 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2017)

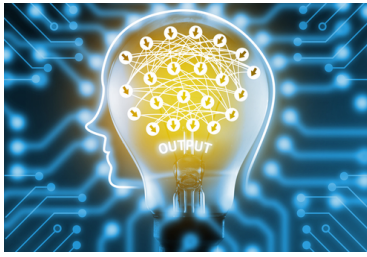
Naples, Italy
Jul. 9-12, 2017

★ 2017 IEEE Smart World Congress (SWC 2017)

San Francisco, USA
Aug. 4-8, 2017

Towards Deep Developmental Learning

Deep learning techniques are having an undeniable impact on general pattern recognition issues. In this paper, from a developmental robotics perspective, we scrutinize deep learning techniques under the light of their capability to construct a hierarchy of meaningful multimodal representations from the raw sensors of robots. These investigations reveal the differences between the methodological constraints of pattern recognition and those of developmental robotics. In particular, we outline the necessity to rely on unsupervised rather than supervised learning methods and we highlight the need for progress towards the implementation of hierarchical predictive processing capabilities. Based on these new tools, we outline the emergence of a new domain that we call deep developmental learning.



IEEE Transactions on Cognitive and Developmental Systems, Jun. 2016

Assessing a Fuzzy Extension of Rand Index and Related Measures

This empirical study extends the results of Hüllermeier, Rifqi, Henzgen, and Senge (2012). It examines the ability of a generalization of the Rand index and four related measures of similarity to recover the cluster structure of the data in the framework of fuzzy c-means clustering. The index range is also used as a criterion statistic. A Monte Carlo simulation is conducted for both the null case and where the data have a well-defined cluster structure. The fuzzy extension of the related measures is not so effective for imbalanced data. On the contrary, whether the index is Dice, Fowlkes and Mallows, Hurbert and Arabie, or Jaccard, it provides reliable results for noise data or for data containing fairly balanced clusters. The criticisms of the Rand index in the context of crisp clustering can also be extended to its fuzzy version.



IEEE Transactions on Fuzzy Systems, Feb. 2017

Technical Activities

New Task Force: "Intelligent Cyber-Physical Systems"

We are happy to announce the creation of the Task Force on "Intelligent Cyber-Physical Systems" under the Smart World Technical Committee of the IEEE Computational Intelligence Society. The aim of the Task Force on "Intelligent Cyber-Physical Systems" is to promote and raise awareness towards embedded and cyber-physical systems endowed with intelligent abilities as well as create a community of scholars and industries in this research field enabling and supporting multidisciplinary collaborations and activities.



[Read more](#)

New York, USA
Aug. 22-25, 2017

★ 2017 IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB 2017)
Manchester, UK
Aug. 23-25, 2017

★ Seventh Joint IEEE International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EpiRob 2017)
Lisbon, Portugal
Sep. 18-21, 2017

★ 2017 IEEE International Conference on Data Science and Advanced Analytics (DSAA 2017)
Tokyo, Japan
Oct. 19-21, 2017

★ 2017 IEEE Latin American Conference on Computational Intelligence (LA-CCI 2017)
Arequipa, Peru
Nov. 8-10, 2017
(Submission: Jul. 10)

★ 2017 IEEE Symposium Series on Computational Intelligence (SSCI 2017)
Hawaii, USA
Nov. 27-Dec. 1, 2017
(Submission: Jul. 16)

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

Chuan-Kang Ting

Educational Activities

- Winner of GVGAI Two-Player Planning Competition at IEEE CEC 2017: The General Video Game AI Two-Player Planning Competition has been held at the IEEE CEC 2017, Donostia-San Sebastián, Spain, June 5-8. Among 14 entries (exclude the sample controllers), one entry was disqualified. The winner of the competition at CEC2017 is ToVo2, designed by Tom Vodopivec from University of Ljubljana, Slovenia.
- In 2016, a survey has been sent by Prof. Simon Lucas (Queen Mary University of London) to the Google Groupe of Computational Intelligence in Games (cigames@googlegroups.com) to collect and analyse the statistics on the use of Game AI competitions within taught courses both at UG and PG levels. This [table](#) summarizes the collected data. The GVGAI competitions, Ms PacMan, UT2004, Super Mario, and Fighting game competition and many other competitions have been used in the Game AI, Game Design, Evolutionary Computation, Machine Learning modules at UG and PG levels, including MsC and PhD programmes in Europe, Asia and North America.



Call for Papers (Journal)

- [IEEE CIM Special Issue on Automated Design of Machine Learning and Search Algorithms \(Jul 15\)](#)
- [IEEE CIM Special Issue on Computational Intelligence Techniques in Bioinformatics and Bioengineering \(Nov 15\)](#)
- [IEEE TETCI Special Issue on New Trends in Smart Chips & Smart Hardware \(Aug 1\)](#)
- [IEEE TETCI Special Issue on Human-Machine Symbiosis \(Sep 3\)](#)
- [Memetic Computing Thematic Issue on Brain Storm Optimization Algorithms \(Sep 1\)](#)

Call for Papers (Conference)

- [Call for Tutorials: IEEE World Congress on Computational Intelligence \(WCCI 2018\) \(Dec 15\)](#)
- [IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning \(ADPRL'17\) \(Jul 2\)](#)
- [IEEE Symposium on Computational Intelligence and Data Mining \(CIDM'17\) \(Jul 16\)](#)
- [IEEE Symposium on Computational Intelligence in Dynamic and Uncertain Environments \(CIDUE'17\) \(Jul 16\)](#)
- [IEEE Symposium on Foundations of Computational Intelligence \(FOCI'17\) \(Jul 16\)](#)
- [International Conference on Agents and Artificial Intelligence \(ICAART 2018\) \(Jul 31\)](#)
- [International Conference on Advanced Computational Intelligence \(ICACI 2018\) \(Nov 15\)](#)

Call for Participation

- International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP 2017), Bratislava, Slovakia (Jul 9-10)
 - International Conference on Data Science, Technology and Applications (DATA 2017), Madrid, Spain (Jul 24-26)
 - International Conference on Swarm Intelligence (ICSI 2017) & International Conference on Data Mining and Big Data (DMBD 2017), Fukuoka, Japan (Jul 27-Aug 1)
 - 12 game competitions at IEEE Conference on Computational Intelligence in Games (CIG 2017), New York, USA (Aug 22-25)
 - IEEE SMC Workshop on Brain-Machine Interface Systems (SMC 2017), Banff, Canada (Oct 5-8)
 - International Symposium on Computational and Business Intelligence (ISCBI 2017), Dubai, UAE (Aug 11-14)
 - International Conference on Behavioral, Economic, and Socio-Cultural Computing (BESC 2017), Krakow, Poland (Oct 16-18)
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Career Opportunities

- Postdoc Researcher on CI, Ishibuchi Lab in Osaka, Japan (Jul 31)
- Postdoc Researcher on CI, Ishibuchi Lab in Shenzhen, China (Jul 31)
- Chair in Knowledge Discovery & Machine Learning, University of Leicester, UK (Jul 16)

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