

IEEE Transactions on Industrial Informatics



CALL FOR PAPERS

for Special Section on



Developments in Artificial Intelligence for Industrial Informatics

Theme: The recent rise of artificial intelligence (AI), empowered by robust computing infrastructure and abundance of data, maintains potential for radical transformation of human society, essentially a third phase in evolution. From potential risks posed by autonomous weapons and workplace automation to the benefits of data-driven intelligent decision-making empowering smart grids, smart cities and informed citizens, numerous research endeavors, policy development and thought-leadership are presently in progress. Joining this broad effort to contribute towards the benefits of AI and better understand potential risks, this special section aims to consolidate recent advances in artificial intelligence for industrial informatics, research in theory and applications.

This special section will focus on (but not limited to) the following topics:

- Design, Development and Application of New Machine Learning Algorithms in Industrial Informatics
- Design, Development and Application of Associative Memory Models and Approaches for Industrial Informatics
- New Theories and Applications of Deep Learning in Industrial Informatics
- New Theories and Applications of Fuzzy Logic in Industrial Informatics
- New Theories and Applications of Cognitive Computing and Data Analytics in Industrial Informatics
- Low Power Implementations of Machine AI Algorithms
- AI Approaches for Embedded Devices and Networks
- Alternative Computer Architectures for AI Systems
- New Theories and Applications of Evolutionary Computation in Industrial Informatics
- New Theories and Applications of AI for Distributed Systems Control and Measurement
- AI Design for Industrial Applications
- Scalability and Performance of AI Techniques to Handle Large Industrial Datasets
- Data Generation, Curation and Management in Industrial Informatics Applications
- New Data Modelling Methods for AI in Industrial Informatics Applications
- AI for Human, Computer and Machine Interface
- Design and Development of Autonomous Systems for Industrial Informatics Applications
- Computing Architecture and Infrastructure Supporting AI in Industrial Informatics Applications
- AI Integration with MES and ERP Systems
- AI Applications in Industrial Internet of Things (IIoT) and Cyber-Physical Systems (CPS)
- AI for Unstructured Data (text, images, audio, video) generated by Industrial Informatics Applications
- AI for Dynamically Reconfigurable, Adaptive, and Emergent Automation Systems
- AI-based Testbed, Performance Evaluation for Industrial Applications
- Interoperability Solutions for AI Applications in Industrial Informatics

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics <http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics>. Please submit your manuscript in electronic form through Manuscript Central web site: <https://mc.manuscriptcentral.com/tii>. On the submitting page #1 in popup menu of manuscript type, select: SS on **Developments in Artificial Intelligence for Industrial Informatics**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages, additional 4 pages may be allowed for a fee.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable: **Deadline for manuscript submissions** **May 31, 2018 (Extended to Jul. 31, 2018)**
Expected publication date (tentative) **November 2018**

Guest Editors:

- Dr Daswin de Silva, Research Centre for Data Analytics and Cognition, La Trobe University, Australia.
- Dr. Zhibo Pang, ABB Corporate Research, Sweden.
- Prof Evgeny Osipov, Luleå University of Technology, Sweden.
- Prof Valeriy Vyatkin, Luleå University of Technology, Sweden and Aalto University, Finland.

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