ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE
The International Journal of Intelligent Real-Time Automation

AUTHOR INFORMATION PACK

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DESCRIPTION

Artificial Intelligence (AI) is playing a major role in the fourth industrial revolution and we are seeing a lot of evolution in various machine learning methodologies. AI techniques are widely used by the practicing engineer to solve a whole range of hitherto intractable problems. This journal provides an international forum for rapid publication of work describing the practical application of AI methods in all branches of engineering. Submitted papers should report some novel aspects of AI used for a real world engineering application and also validated using some public data sets for easy replicability of the research results.

Papers which do not respect the 4 following conditions will be desk-rejected without being sent to reviewers:

- Papers on new metaphor-based metaheuristics are very rarely accepted by EAAI (see details on this in the guide online).
- The abstract should clearly specify which is the contribution in AI and which is the application in engineering.
- The use of undefined acronyms in the title and in the abstract is forbidden.
- The papers must be formatted in single-column format.

Focal points of the journal include, but are not limited to innovative applications of: Internet–of–things and cyber-physical systems Intelligent transportation systems & smart vehicles Big data analytics, understanding complex networks Neural networks, fuzzy systems, neuro-fuzzy systems Deep learning and real world applications Self-organizing, emerging or bio-inspired system Global optimization, Meta-heuristics and their applications: Evolutionary Algorithms, swarm intelligence, nature and biologically inspired meta-heuristics, etc. Architectures, algorithms and techniques for distributed AI systems, including multi-agenty based control and holonic control Decision-support systems Aspects of reasoning: abductive, case-based, model-based, non-monotonic, incomplete, progressive and approximate reasoning Applications of chaos theory and fractals Real-time intelligent automation, and their associated supporting methodologies and techniques, including control theory and industrial informatics Knowledge processing, knowledge elicitation and acquisition, knowledge representation, knowledge compaction, knowledge bases, expert systems Perception, e.g. image processing, pattern recognition, vision systems, tactile systems, speech recognition and synthesis Aspects of software engineering, e.g. intelligent programming environments, verification and validation of AI-based software, software and hardware architectures for the real-time use of AI techniques, safety and
reliability. Intelligent fault detection, fault analysis, diagnostics and monitoring. Industrial experiences in the application of the above techniques, e.g. case studies or benchmarking exercises.

*Engineering Applications of Artificial Intelligence* publishes: Survey papers/tutorials Contributed papers — detailed expositions of new research or applications Case studies or software reviews — evaluative and descriptive reviews of existing available AI software systems, discussing the experience gained and lessons learnt from using or developing AI systems for engineering applications IFAC EAAI Forum — problems arising from engineering practice, needing to be solved by somebody; solutions to problems discussed in this forum or elsewhere; critiques of a position or claim found in the literature.

The Editors of *Engineering Applications of Artificial Intelligence* wish to inform authors that this journal will *not* publish papers that propose "novel" metaphor-based metaheuristics, unless the authors: present their method using the normal, standard optimization terminology; show that the new method brings useful and novel concepts to the field; motivate the use of the metaphor on a sound, scientific basis; present a fair comparison with other state-of-the-art methods using state-of-the-art practices for benchmarking algorithms.

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Focal points of the journal include, but are not limited to innovative applications of:

- Real-time intelligent automation, and their associated supporting methodologies and techniques, including control theory and industrial informatics,
- Architectures, algorithms and techniques for distributed AI systems, including multi-agent based control and holonic control,
- Decision-support systems,
- Aspects of reasoning: abductive, case-based, model-based, non-monotonic, incomplete, progressive and approximate reasoning,
- Applications of chaos theory and fractals,
- Metaheuristics and their applications in intelligent automation: Genetic Algorithms, Ant Colony Optimization, Particle Swarm Optimization, etc.,
- Knowledge processing, knowledge elicitation and acquisition, knowledge representation, knowledge compaction, knowledge bases, expert systems,
- Neural networks, fuzzy systems, neuro-fuzzy systems,
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- Aspects of software engineering, e.g. intelligent programming environments, verification and validation of AI-based software, software and hardware architectures for the real-time use of AI techniques, safety and reliability,
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Engineering Applications of Artificial Intelligence publishes:

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- Contributed papers — detailed expositions of new research or applications.
- Case studies or software reviews — evaluative and descriptive reviews of existing available AI software systems, discussing the experience gained and lessons learnt from using or developing AI systems for engineering applications.
- IFAC EAAI Forum — problems arising from engineering practice, needing to be solved by somebody; solutions to problems discussed in this forum or elsewhere; critiques of a position or claim found in the literature.

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Types of paper
Engineering Applications of Artificial Intelligence publishes

- Survey papers/tutorials.
- Contributed papers - detailed expositions of new research or applications.
• Case studies or software reviews - evaluative and descriptive reviews of existing available AI software systems, discussing the experience gained and lessons learnt from using or developing AI systems for engineering applications.
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• Papers on new metaphor-based metaheuristics are very rarely accepted by EAAI (see details on this in the guide online).
• The abstract should clearly specify which is the contribution in AI and which is the application in engineering.
• The use of undefined acronyms in the title and in the abstract is forbidden.
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