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CALL FOR PAPERS

SPECIAL ISSUE ON

Artificial Intelligence-Aided Engineering Education

Guest Editors

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Artificial intelligence (AI) is already helping several types of machines and engineering systems to maximize the chances of successfully achieving their goals. This has led in the last decade to fundamental transformations in a wide set of industrial sectors and economic activities and played a fundamental role in the birth of innovative paradigms, such as “Industry 4.0”, first in Germany and then spread throughout the whole European Union, and of “Society 5.0” in Japan, among other transformations with global impact.

Engineering science, technology and research benefit from artificial intelligence, as can be clearly understood from recent innovations linked to: autonomous cars, collaborative robots, unmanned aircraft systems, self-supervised manufacturing systems, management of big data, optimization of machines and even design of new materials. Consequently, engineering educators should be able to make students aware of the potentials of artificial intelligence, teach them the necessary fundamentals of this field of study and guide them through the application of these algorithms and technologies to the development of real engineering projects, as necessary aspects in modern engineering programmes of study.

However, the more relevant impact of artificial intelligence in engineering education goes beyond the application of a set of novel resources to solving specific engineering problems: In fact, the concept of **“artificial intelligence-aided engineering education”** refers to applying artificial intelligence techniques and resources for improving the whole teaching-learning process in higher education, especially in connection with scientific-technological studies. Implications involve all areas of educational practice, from planning and organization of teaching programmes and courses, through implementation and tracing, towards final assessment of learning results and outcomes.

Thanks to artificial intelligence-aided engineering education we may well be living the dawn of a new era of more effective, efficient, accessible and inclusive technical universities.

In order to search, generate, gather and provide some clues for optimally deploying the potentials of this new set of algorithms and technologies, the Special Issue on "**Artificial Intelligence-Aided Engineering Education**" will focus in depth on aspects such as:

- Computer-assisted instruction and intelligent teaching programs: The teachers of the future?
- Optimizing efforts & enhancing results: AI-supported courses.
- Autonomous massive open online courses.
- Virtual laboratories and artificial learning environments.
- Artificial intelligence for supporting educational and curricular planning.
- Artificial intelligence for solving organizational issues at universities.
- Artificial intelligence for sustaining teaching-learning activities.
- Artificial intelligence for helping with student assessment.
- Artificial intelligence for empowering teachers' abilities.
- Towards intelligent and autonomous universities.
- Continuous improvement and quality management in universities supported by AI.

Also to some extent:

- Teaching-learning experiences involving artificial intelligence.
- Project-based learning focused on intelligent and autonomous engineering systems.
- Engineering educators and their adaptation to artificial intelligence: Resources and guidelines.

Submissions are to be sent by e-mail in MSWord (.doc) to contact guest editor:

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Important Deadlines

Submission of extended abstracts (around two pages):	May 31st, 2019
Notification of reviewers' feedback:	June 30th, 2019
Submission of manuscript:	September 15th, 2019
Notification of reviewers' feedback:	November 15th, 2019
Submission of final manuscript:	December 15th, 2019

Manuscripts should be written in English and limited to 12 one-sided, one-column, single-spaced pages. Manuscripts should include keywords, complete affiliation of the authors and a short biography, and the citing and listing of references should be in the IJEE style. Figures and illustrations should be suitable for non-color printing.

General information and guidelines are available at the IJEE web site: https://www.ijee.ie/