ARTIFICIAL INTELLIGENCE IN MEDICINE

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DESCRIPTION

Artificial Intelligence in Medicine publishes original articles from a wide variety of interdisciplinary perspectives concerning the theory and practice of artificial intelligence (AI) in medicine, medically-oriented human biology, and health care.

Artificial intelligence in medicine may be characterized as the scientific discipline pertaining to research studies, projects, and applications that aim at supporting decision-based medical tasks through knowledge- and/or data-intensive computer-based solutions that ultimately support and improve the performance of a human care provider.

Artificial Intelligence in Medicine considers for publication manuscripts that have both:
- Potential high impact in some medical or healthcare domain;
- Strong novelty of method and theory related to AI and computer science techniques.

Artificial Intelligence in Medicine papers must refer to real-world medical domains, considered and discussed at the proper depth, from both the technical and the medical points of view. The inclusion of a clinical assessment of the usefulness and potential impact of the submitted work is strongly recommended.

Artificial Intelligence in Medicine is looking for novelty in the methodological and/or theoretical content of submitted papers. Such kind of novelty has to be mainly acknowledged in the area of AI and Computer Science. Methodological papers deal with the proposal of some strategy and related methods to solve some scientific issues in specific domains. They must show, usually through an experimental evaluation, how the proposed methodology can be applied to medicine, medically-oriented human biology, and health care, respectively. They have also to provide a comparison with other proposals, and explicitly discuss elements of novelty. Theoretical papers focus on more fundamental, general and formal topics of AI and must show the novel expected effects of the proposed solution in some medical or healthcare field.

Following the information explosion brought by the diffusion of Internet, social networks, cloud computing, and big-data platforms, Artificial Intelligence in Medicine has broadened its perspective. Particular attention is given to novel research work pertaining to:

AI-based clinical decision making; Medical knowledge engineering; Knowledge-based and agent-based systems; Computational intelligence in bio- and clinical medicine; Intelligent and process-aware information systems in healthcare and medicine; Natural language processing in medicine;
Data analytics and mining for biomedical decision support; New computational platforms and models for biomedicine; Intelligent exploitation of heterogeneous data sources aimed at supporting decision-based and data-intensive clinical tasks; Intelligent devices and instruments; Automated reasoning and meta-reasoning in medicine; Machine learning in medicine, medically-oriented human biology, and healthcare; AI and data science in medicine, medically-oriented human biology, and healthcare; AI-based modeling and management of healthcare pathways and clinical guidelines; Models and systems for AI-based population health; AI in medical and healthcare education; Methodological, philosophical, ethical, and social issues of AI in healthcare, medically-oriented human biology, and medicine.

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For a book:

[2] R. Kowalski, Logic for Problem Solving (North-Holland, New York, 1979).

For a journal article:

[3] D.E. Heckerman and E.H. Shortliffe, From certainty factors to belief networks, Artificial Intelligence in Medicine 4 (1992) 35-52.

For an unpublished paper:

[4] S.E. Fahlman, A system for representing and using real-world knowledge, MIT Technical Report AI-TR 450, Cambridge, NIA, 1977.

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[3] Strunk Jr W, White EB. The elements of style. 4th ed. New York: Longman; 2000.
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[4] Mettam GR, Adams LB. How to prepare an electronic version of your article. In: Jones BS, Smith RZ, editors. Introduction to the electronic age, New York: E-Publishing Inc; 2009, p. 281–304.
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[5] Cancer Research UK. Cancer statistics reports for the UK, http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/; 2003 [accessed 13 March 2003].
Reference to a dataset:
[dataset] [6] Oguro M, Imahiro S, Saito S, Nakashizuka T. Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1; 2015. https://doi.org/10.17632/xwj9nb39r1.

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