ARTIFICIAL INTELLIGENCE IN MEDICINE

AUTHOR INFORMATION PACK

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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 medicinemay 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.

If you are considering submitting to *Artificial Intelligence in Medicine*, make sure that your paper meets the quality requirements mentioned above. English exposition must also be clear and revised with due care. Authors are kindly requested to revise their manuscripts with the help of co-authors that are fluent in English or language editing services before submitting their contribution. Papers written in poor English are likely to be rejected.

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Artificial Intelligence in Medicine features the following kinds of papers:

Original research contributions: Theoretical and/or methodological papers about novel approaches; **Methodological reviews/surveys:** Papers that collect, classify, describe, and critically analyze research designs, methods and procedures; **Position papers:** Papers that gather, describe, and analyze the scientific challenges of a specific field, founding them on the related literature; **Editorials:** Editors will occasionally publish editorials; **Guest editorials:** Editors can invite guest editors of special issues to publish editorials. Unsolicited editorials will not be considered; **Letters to the editor:** Letters from readers shortly discussing and commenting on a topic of interest, for example based on recently published articles in the journal *Artificial Intelligence in Medicine*; **Book reviews:** A critical review of recently published books; **Erratum:** Some specific corrections to results previously published in the journal *Artificial Intelligence in Medicine*; **Historical perspectives:** Papers that describe and critically review some specific aspects in the history of scientific contributions and applications; **In memoriam:** Papers describing the life and the main scientific contributions of scientists passed away, having had an important role in the area of artificial intelligence in medicine; **PhD projects:** Early publications about more recent research trends, having the goal of allowing PhD candidates to explain their PhD research project and to share it with other scientists interested in the topic. Such type of papers should focus on the overall goals and approaches of PhD research projects, without considering in detail the specific scientific results obtained, which would be the focus of other research articles.

Special Issues are regularly published and included among regular issues. *Artificial Intelligence in Medicine* special issues deal with current theoretical/methodological research or convincing applications related to AI in medicine. Special Issues are managed by one or more guest editors who are outstanding experts on the selected topic.Special Issues of *Artificial Intelligence in Medicine* are directly proposed to potential guest editors by the Editor in Chief, also according to suggestions from the editorial board members."External" proposals of Special Issues will no longer be considered.

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