The journal of *Artificial Intelligence (AIJ)* welcomes papers on broad aspects of AI that constitute advances in the overall field including, but not limited to, cognition and AI, automated reasoning and inference, case-based reasoning, commonsense reasoning, computer vision, constraint processing, ethical AI, heuristic search, human interfaces, intelligent robotics, knowledge representation, machine learning, multi-agent systems, natural language processing, planning and action, and reasoning under uncertainty. The journal reports results achieved in addition to proposals for new ways of looking at AI problems, both of which must include demonstrations of value and effectiveness.

Papers describing applications of AI are also welcome, but the focus should be on how new and novel AI methods advance performance in application areas, rather than a presentation of yet another application of conventional AI methods. Papers on applications should describe a principled solution, emphasize its novelty, and present an in-depth evaluation of the AI techniques being exploited.

Apart from regular papers, the journal also accepts Research Notes, Research Field Reviews, Position Papers, and Book Reviews (see details below).

The journal will also consider summary papers that describe challenges and competitions from various areas of AI. Such papers should motivate and describe the competition design as well as report and interpret competition results, with an emphasis on insights that are of value beyond the competition (series) itself.

From time to time, there are special issues devoted to a particular topic. Such special issues must always have open calls-for-papers. Guidance on the submission of proposals for special issues, as well as other material for authors and reviewers can be found at http://aij.ijcai.org/special-issues.

Types of Papers

Regular Papers

AIJ welcomes basic and applied papers describing mature, complete, and novel research that articulate methods for, and provide insight into artificial intelligence and the production of artificial intelligent systems. The question of whether a paper is mature, complete and novel is ultimately determined by reviewers and editors on a case-by-case basis. Generally, a paper should include a convincing motivational discussion, articulate the relevance of the research to Artificial Intelligence, clarify what is new and different, anticipate the scientific impact of the work, include all relevant proofs and/or experimental data, and provide a thorough discussion of connections with the existing literature. A prerequisite for the novelty of a paper is that the results it describes have not been previously published by other authors and have not been previously published by the same authors in any archival journal. In particular, a previous conference publication by the same authors does not disqualify a submission on the grounds of novelty. However, it is rarely the case that conference papers satisfy the completeness criterion without further elaboration. Indeed, even prize-winning papers from major conferences often undergo major revision following referee comments, before being accepted to AIJ.

AIJ caters to a broad readership. Papers that are heavily mathematical in content are welcome but should include a less technical high-level motivation and introduction that is accessible to a wide audience and explanatory commentary throughout the paper. Papers that are only purely mathematical in nature, without demonstrated applicability to artificial intelligence problems may be returned. A discussion of the work's implications on the production of artificial intelligent systems is normally expected.

There is no restriction on the length of submitted manuscripts. However, authors should note that publication of lengthy papers, typically greater than forty pages, is often significantly delayed, as the length of the paper acts as a disincentive to the reviewer to undertake the review process. Unedited theses are acceptable only in exceptional circumstances. Editing a thesis into a journal article is the author's responsibility, not the reviewers'.

Research Notes

The Research Notes section of the Journal of Artificial Intelligence will provide a forum for short communications that cannot fit within the other paper categories. The maximum length should not exceed 4500 words (typically a

paper with 5 to 14 pages). Some examples of suitable Research Notes include, but are not limited to the following: crisp and highly focused technical research aimed at other specialists; a detailed exposition of a relevant theorem or an experimental result; an erratum note that addresses and revises earlier results appearing in the journal; an extension or addendum to an earlier published paper that presents additional experimental or theoretical results.

Reviews

The AIJ invests significant effort in assessing and publishing scholarly papers that provide broad and principled reviews of important existing and emerging research areas, reviews of topical and timely books related to AI, and substantial, but perhaps controversial position papers (so-called "Turing Tape" papers) that articulate scientific or social issues of interest in the AI research community.

Research Field Reviews: AIJ expects broad coverage of an established or emerging research area, and the articulation of a comprehensive framework that demonstrates the role of existing results, and synthesizes a position on the potential value and possible new research directions. A list of papers in an area, coupled with a summary of their contributions is *not* sufficient. Overall, a field review article must provide a scholarly overview that facilitates deeper understanding of a research area. The selection of work covered in a field article should be based on clearly stated, rational criteria that are acceptable to the respective research community within AI; it must be free from personal or idiosyncratic bias.

Research Field Reviews are by invitation only, where authors can then submit a 2-page proposal of a Research Field Review for confirmation by the special editors. The 2-page proposal should include a convincing motivational discussion, articulate the relevance of the research to artificial intelligence, clarify what is new and different from other surveys available in the literature, anticipate the scientific impact of the proposed work, and provide evidence that authors are authoritative researchers in the area of the proposed Research Field Review. Upon confirmation of the 2-page proposal, the full Invited Research Field Reviews can then be submitted and then undergoes the same review process as regular papers.

Book Reviews: We seek reviewers for books received, and suggestions for books to be reviewed. In the case of the former, the review editors solicit reviews from researchers assessed to be expert in the field of the book. In the case of the latter, the review editors can either assess the relevance of a particular suggestion, or even arrange for the refereeing of a submitted draft review.

Position Papers: The last review category, named in honour of Alan Turing as a "Turing Tapes" section of AIJ, seeks clearly written and scholarly papers on potentially controversial topics, whose authors present professional and mature positions on all variety of methodological, scientific, and social aspects of AI. Turing Tape papers typically provide more personal perspectives on important issues, with the intent to catalyze scholarly discussion.

Turing Tape papers are by invitation only, where authors can then submit a 2-page proposal of a Turing Tape paper for confirmation by the special editors. The 2-page proposal should include a convincing motivational discussion, articulate the relevance to artificial intelligence, clarify the originality of the position, and provide evidence that authors are authoritative researchers in the area on which they are expressing the position. Upon confirmation of the 2-page proposal, the full Turing Tape paper can then be submitted and then undergoes the same review process as regular papers.

Competition Papers

Competitions between AI systems are now well established (e.g. in speech and language, planning, auctions, games, to name a few). The scientific contributions associated with the systems entered in these competitions are routinely submitted as research papers to conferences and journals. However, it has been more difficult to find suitable venues for papers summarizing the objectives, results, and major innovations of a competition. For this purpose, AIJ has established the category of competition summary papers.

Competition Paper submissions should describe the competition, its criteria, why it is interesting to the AI research community, the results (including how they compare to previous rounds, if appropriate), in addition to giving a summary of the main technical contributions to the field manifested in systems participating in the

competition. Papers may be supplemented by online appendices giving details of participants, problem statements, test scores, and even competition-related software.

Although Competition Papers serve as an archival record of a competition, it is critical that they make clear why the competition's problems are relevant to continued progress in the area, what progress has been made since the previous competition, if applicable, and what were the most significant technical advances reflected in the competition results. The exposition should be accessible to a broad AI audience.