



# Fourteenth National Conference on Artificial Intelligence

Providence, Rhode Island • July 27–31, 1997

## Call for Papers

AAAI-97 is the fourteenth national conference on artificial intelligence (AI). The purpose of the conference is to promote research in AI and scientific interchange among AI researchers and practitioners.

Papers may represent significant contributions to any aspects of AI: a) principles underlying cognition, perception, and action; b) design, application, and evaluation of AI algorithms and systems; c) architectures and frameworks for classes of AI systems; and d) analysis of tasks and domains in which intelligent systems perform.

One of the most important functions served by the national conference is to provide a forum for information exchange and interaction among researchers working in different subdisciplines, in different research paradigms, and in different stages of research. As in previous years, we are continuing efforts to expand active participation in the conference to include a cross-section of the AI community and the community's research activities.

Accordingly, we encourage submission of papers that describe theoretical, empirical, or experimental results; represent areas of AI that may have been under-represented in recent conferences; present promising new research concepts, techniques, or perspectives; or discuss issues that cross traditional subdisciplinary boundaries. As outlined below, the paper review criteria are intended to recognize this

broader spectrum of research contributions.

### Timetable for Submission

Authors must first submit their paper's title page (preferably electronically, as described below) by January 6, 1997. Authors must then submit one copy in camera-ready format, and six (6) double-spaced review copies of their papers to the AAAI office by January 8, 1997. Papers received after that date will be returned unopened. Notification of receipt will be mailed to the first author (or designated author) soon after receipt. All inquiries regarding lost papers must be made by January 13, 1997. Notification of acceptance or rejection of submitted papers will be mailed to the first (or designated author) by March 5, 1997. Final camera-ready copy of accepted papers will be due on April 2, 1997.

### Electronic Title Page

Because of the tight schedule required to assign reviewers, we require that authors who desire to submit a full paper declare their intention by sending AAAI a title page by Wednesday, January 6, 1997. The preferred method is by using a world-wide web (www) browser such as Netscape™ to connect to: <http://www.aaai.org/Conferences/National/1997/titlepage.html>, then filling out the form and finally pressing the submit button. (You can also navigate to this page by connecting to AAAI's home page, which is located at: <http://www.aaai.org>). After submitting the form, the page will dis-

play a unique tracking number. Copy this number down for future reference: it should be marked on the full paper submission. Authors who do not have access to a www browser with forms support should mail a printed page to the AAAI office to arrive by January 3. (These authors may omit the tracking number). The printed page should use the following format:

- title: <title>
- author: <name of first author>
- address: <address of first author>
- author: <name of last author>
- address: <address of last author>
- abstract: <abstract>
- content areas: <primary keyword>, <secondary keyword>, ...

### Content Areas

To facilitate the reviewing process, authors are requested to select one primary content area keyword, one secondary content area keyword, and up to three other keywords from the list below, to appear on the electronic title page and submitted paper. Please use the exact phrases below, either the broad or more specific forms. Do not make up new keywords, since they will be ignored by the paper classification software.

- AI architectures
  - agent architectures
  - software agents
- AI systems
  - very large knowledge bases
  - massively parallel systems
- applications
- art and music
- artificial life

- automated reasoning
- automatic programming
- control
- belief revision
- case-based reasoning
- cognitive modeling
- commonsense reasoning
- computational complexity
- computer aided education
- constraint satisfaction
- decision theory
- design
- diagnosis
- distributed AI
  - blackboard systems
  - cooperating knowledge-based systems
  - coordination
  - distributed problem solving
  - multiagent planning
  - multiagent systems
  - negotiation
  - social agents
- enabling technologies
- expert systems
- fuzzy reasoning
- game playing
- genetic algorithms
- geometric reasoning
- information retrieval
- knowledge acquisition
- knowledge representation
  - decision theoretic methods
  - description logics
  - logic
  - nonmonotonic reasoning
  - ontologies
  - uncertainty
- lifelike characters
- logic programming
- machine learning
  - analogical learning
  - Bayesian learning
  - case-based learning
  - computational learning theory
  - connectionist learning
  - constructive induction
  - decision-tree learning
  - explanation based learning
  - inductive learning
  - inductive logic programming
  - multistrategy learning
  - reinforcement learning
  - speedup learning
  - scientific discovery
  - theory refinement
  - unsupervised learning
- mathematical foundations
- multimedia
- natural language processing

- corpus-based methods
- discourse
- formal models
- machine translation
- natural language generation
- natural language understanding
- spoken language generation
- spoken language understanding
- neural networks
- perception
- philosophical foundations
- plan recognition
- planning and control
  - anytime planning
  - decision theoretic planning
  - hierarchical planning
  - plan evaluation
  - plan execution
  - plan monitoring
  - reactive control
  - situated reasoning
- probabilistic reasoning
- problem solving
- real-time systems
- reasoning about physical systems
  - automated modeling
  - causal reasoning
  - qualitative simulation
- robotics
  - selective perception
  - cognitive maps
  - hand eye manipulation
- scheduling
- search
- simulation
- spatial reasoning
- temporal reasoning
- theorem proving
- user interfaces
- virtual reality
- vision

## Paper Length and Format For Blind Review

As a simple way of stating and enforcing constraints on paper length, authors are asked to send one (1) copy of their submitted paper in camera-ready format, demonstrating that the paper can fit in six (6) proceedings pages. (Authors of accepted papers may purchase up to two additional proceedings pages for their paper, for a total of 8 pages, at \$250/page when final camera-ready copy is submitted.) Generic templates and macros for AAI format for Microsoft Word™, LaTeX, and other systems are available at <http://www.aaai.org/Publications/macros-link.html>.

In addition to camera-ready copy, authors are requested to submit six (6) double-spaced copies of the paper for review. These must be clearly legible. Neither computer files nor fax submissions are acceptable. Submissions must be printed on 8 1/2 x 11 inch or A4 paper using 12 point type (10 characters per inch for typewriters). Double-sided printing is strongly encouraged. Reviewing for AAI-97 will be blind to the identities of the authors. This requires that authors exercise some care not to identify themselves in their papers.

### Title Page

Each copy of the paper must have a title page, separate from the body of the paper, including the title of the paper, the names and addresses of all authors, a short abstract of less than 200 words, a list of content areas (see above), word count, tracking number from electronic submission of title page (see above), statement of sole submissions (see below), and acknowledgements (if any).

### Paper Body

The second page, on which the paper body begins, should include the same title, abstract, content areas, word count, tracking number, and statement with respect to multiple submissions, but not the names or affiliations of the authors. The references should include all published literature relevant to the paper, including previous works of the authors, but should not include unpublished works. When referring to one's own work, use the third person, rather than the first person. For example, say "Previously, Clinton [13] has shown that..." rather than "In our previous work [13] we have shown that..." Try to avoid including any information in the body of the paper or references that would identify the authors or their institutions. Such information can be added to the final camera-ready version for publication. Please do not staple the title page to the body of the paper.

### Review Process

Program committee (PC) members will identify papers they are qualified to review based on the information electronically presubmitted (e.g., the paper's title, content areas, and abstract). This information, along with other

considerations, will be used to assign each submitted paper to three PC members. Using the criteria given below, they will review the paper independently. Reviews will be done blind to the identities of the authors and their institutions. If the majority of the reviewers of a paper agree to accept or reject it, that recommendation will be followed. If the reviewers are unable to decide, the paper will be discussed at a meeting of the Senior Program Committee members in March. In general, papers will be accepted if they receive at least two positive reviews or if they generate an interesting controversy. Final decisions on all papers will be made by the Program Chairs.

### Review Criteria

Questions that will appear on the review form appear below. Authors are advised to bear these questions in mind while writing their papers. Reviewers will look for papers that meet at least some (though not necessarily all) of the criteria in each category.

*Significance:* How important is the problem studied? Does the approach offered advance the state of the art? Does the paper stimulate discussion of important issues or alternative points of view?

*Originality:* Are the problems and approaches new? Is this a novel combination of existing techniques? Does the paper point out differences from related research? Does it address a new problem or one that has not been studied in depth? Does it introduce an interesting research paradigm? Does the paper describe an innovative combination of AI techniques with techniques from other disciplines? Does it introduce an idea that appears promising or might stimulate others to develop promising alternatives?

*Quality:* Is the paper technically sound? Does it carefully evaluate the strengths and limitations of its contributions? Are its claims backed up? Does the paper offer a new form of evidence in support of or against a well-known technique? Does the paper back up a theoretical idea already in the literature with experimental evidence? Does it offer a theoretical analysis of prior experimental results?

*Clarity:* Is the paper clearly written?

Does it motivate the research? Does it describe the inputs, outputs, and basic algorithms employed? Are the results described and evaluated? Is the paper organized in a logical fashion? Is the paper written in a manner that makes its content accessible to most AI researchers?

### Videotape Support

If authors feel that an understanding of the dynamic behavior exhibited by their system is an important factor in judging the technical merit of the work, they may optionally include six (6) copies of a videotape of not more than five (5) minutes duration in NTSC-VHS (US standard only) format to the AAI office by January 8, 1997, as part of their paper submission. Tapes should be labeled only with the tracking number and title of the paper submission; tapes cannot be returned.

### Submissions to Multiple Conferences

AAAI-97 will not accept any paper which, at the time of submission, is under review for, or has already been published or accepted for publication in a journal or another conference. Authors are also expected not to submit their papers elsewhere during AAI's review period. These restrictions apply only to journals and conferences, and not to workshops or similar specialized meetings with limited audiences.

The title page should include a statement that the paper is not under review or accepted for publication in another conference or journal.

### Publication

Accepted papers will be allocated six (6) pages in the conference proceedings. Up to two (2) additional pages may be used at a cost to the authors of \$250 per page. Papers exceeding eight (8) pages and those violating the instructions to authors will not be included in the proceedings.

### Copyright

Authors will be required to transfer copyright of their paper to AAI.

## Paper Submissions & Inquiries

Please send papers and conference registration inquiries to:

AAAI-97  
American Association for Artificial Intelligence  
445 Burgess Drive  
Menlo Park, CA 94025-3496

Registration and call clarification inquiries (only) may be sent to the internet address: [ncai@aaai.org](mailto:ncai@aaai.org).

Please send program suggestions and inquiries to:

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# Student Abstract & Poster Program

AAAI-97 invites submissions to the student abstract and poster program. The goal of this program is to provide a forum in which students can present and discuss their work during its early stages, meet some of their peers who have related interests, and introduce themselves to more senior members of the field. The program is open to all pre-Ph.D. students. Nonstudent advisors or collaborators should be acknowledged appropriately, as coauthors or otherwise. However, students are requested to honor the spirit of the program by submitting only work for which they are primary investigators.

## Requirements for Submission

Authors must submit six (6) printed copies of a two-page abstract describing their research to the AAAI office by January 8, 1997. Abstracts received after that date will be returned unopened. Notification of receipt will be mailed to the author. All inquiries regarding lost abstracts must be made by January 13, 1997. Notification of acceptance or rejection of submitted abstracts will be mailed to the author by March 11, 1997. Camera-ready copy of accepted abstracts will be due by April 2, 1997.

## Abstract Format

All six (6) copies of a submitted abstract must be clearly legible. Neither computer files nor fax submissions are acceptable. Submissions must be printed on 8 1/2 x 11 inch or A4 paper using 12 point type (10 characters per inch for typewriters). Each page must have a maximum of 38 lines and an average of 75 characters per line (corresponding to the LaTeX article-style, 12 point).

## Length

All abstracts must be no more than two pages, not including the bibliography. The first two pages must include the following: title; the primary

author's full name, affiliation, postal address, phone number, and e-mail address; all coauthors' full names and affiliations; text; and any figures, tables, or diagrams. Up to one additional page may be used exclusively for the bibliography if necessary. Papers exceeding the specified length and formatting requirements are subject to rejection without review.

## Submissions to AAAI-97 or Other Conferences

Students are free to submit abstracts for work reported in a regular paper submitted to the AAAI-97 or another conference, but not for work that has already been published. Abstracts will be accepted or rejected for the student session regardless of the outcomes of related paper submissions.

## Review Criteria

Each abstract will be reviewed against the following criteria:

*Significance:* Does the work address an important problem? Is the potential contribution of the approach clear? Has the author placed the work critically in context of the current field?

*Originality:* Is this a novel problem or approach? Is related work cited and contrasted to this approach?

*Clarity:* Is the abstract clearly written? Is the state of development of the work clear? Are theoretical or actual examples given? If no results are presented, is the feasibility of the approach evident?

## Publication

Accepted abstracts will be allocated one (1) page in the conference proceedings. Students will be required to transfer copyright of the abstract to AAAI.

## Poster Session

Accepted abstracts will be allocated presentation time and space in the student poster display area at the conference. Student authors of accepted abstracts must agree to prepare a poster representing the work described in their abstracts and to be available to discuss their work with visitors during their allocated time in the student poster display area.

## Student Abstract Submissions & Inquiries

Please send abstracts to:

AAAI-97 Student Abstracts  
American Association for  
Artificial Intelligence  
445 Burgess Drive  
Menlo Park, CA 94025-3496 USA

Registration and call clarification inquiries (only) may be sent to the internet address: [NCAI@aaai.org](mailto:NCAI@aaai.org).

Please send student program suggestions and inquiries to:

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## For More Information Contact:

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