Sixteenth International Joint Conference on Artificial Intelligence

ijcai *99*

Call for participation

31 July – 6 August 1999 in Stockholm, Sweden

Sponsored by IJCAII and the Scandinavian AI Societies

IJCAI-99 is sponsored by IJCAII and the Scandinavian AI-societies

Call for Papers

The IJCAI-99 Program Committee invites submissions of technical papers for IJCAI-99, to be held in Stockholm, Sweden, on July 31- August 6, 1999. Submissions are invited on substantial, original, and previously unpublished research on all aspects of AI.

Timetable

Authors must first submit their paper's title page (preferably electronically, as described below) to arrive by January 12, 1999. They must then submit six complete printed copies of their paper to arrive by January 14, 1999. Submissions received after that date will be returned unopened. Authors should note that mail can sometimes be considerably delayed, especially during the winter in North America, and should take this into account when timing their submissions.

Notification of receipt will be mailed to the first author (or designated author) soon after receipt. Notification of acceptance or rejection of submitted papers will be mailed to the first author (or designated author) by February 22, 1999.

Camera-ready copy of accepted papers must be received by the publisher in the USA by April 6, 1999. Note that at least one author of each accepted paper is required to attend the conference to present the work.

Electronic Title Page

Because of the large number of submissions anticipated and the tight reviewing schedule, authors desiring to submit a full paper must declare their intention by submitting a title page by January 12, 1999. The strongly preferred submission method is to use a World Wide Web (WWW) browser such as Netscape to connect to:

http://www.ijcai.org/ijcai-99/titlepage.html

There authors will find a title page submission form to fill in and submit. Title pages will be given a unique tracking number that should be marked on the full paper submission.

Authors without access to a WWW browser with forms support should mail a printed title page to the American Association for Artificial Intelligence, whose address is at the end of this call. This title page must arrive by January 12, 1999, and should have the following format:

    author: name of first author
    address: address of first author
    ...
    author: name of last author
    address: address of last author
    title: title of the paper
    abstract: abstract<200 words
    content areas: first area,..., last area

The abstract should be less than 200 words. Authors who submit printed title pages may omit a tracking number from the full paper. Also, authors who are submitting a printed title page and wish to avoid a second mailing may mail their title pages and papers together, both to arrive by January 12, 1999.

We cannot accept title pages submitted by e-mail or FAX.

Content Areas

To facilitate the reviewing process, authors are requested to put one or more appropriate content area keywords from the list below on their title page and on the submitted paper. Please use the exact phrases below; do not make up new keywords, since they will be ignored by the paper classification software.

List of area keywords

AI architectures	distributed AI	philosophical foundations
applications	enabling technologies	planning
art and music	expert systems	probabilistic reasoning
artificial life	game playing	problem solving
automated modeling	genetic algorithms	qualitative reasoning
automated reasoning	geometric or spatial	reactive control
control	reasoning	real-time systems
belief revision	information retrieval	reinforcement learning
case-based reasoning	knowledge acquisition	robotics
causality	knowledge representation	scheduling
cognitive modeling	lifelike characters	scientific discovery
common-sense reasoning	machine learning	search
computational complexity	machine translation	simulation
computer-aided education	mathematical foundations	software agents
constraint satisfaction	multiagent systems	speech understanding
decision theory	multimedia	syntax
decision trees	natural language	temporal reasoning
design	processing	theorem proving
description logics	neural networks	user interfaces
diagnosis	nonmonotonic reasoning	virtual reality
discourse	ontologies	vision
discovery	perception	

Special keywords related to challenge papers should be challenge-1, challenge-2, … , challenge-9, as explained in the next section.

Responses to IJCAI-97 Challenge Papers

In addition to technical papers on the above subjects, we are soliciting papers that respond to the technical challenges published as challenge papers in the IJCAI-97 Proceedings. We are not accepting new challenge papers (in the sense of the 1997 solicitation) in 1999. For more on responding to challenges that appeared in the IJCAI-97 Proceedings, see the links from the IJCAI-99 home page:

http://www.ijcai.org/ijcai-99/challenges.html

If you are submitting a paper in response to a challenge issued in 1997, the first keyword should be indicated with challenge-1 or challange-2 …, or challenge-9, where the challenge numbers are:

Challenges

1 The Predictive Toxicology Evaluation Challenge
2 Challenge: What is the Impact of Bayesian Networks on Learning?
3 Adaptive Web Sites: an AI Challenge
4 The RoboCup Synthetic Agents Challenge 97
5 Understanding Three Simultaneous Speeches
6 Distributed Vision System: An Informative Infrastructure for Robot Navigation
7 Challenges in Bridging Plan Synthesis Paradigms
8 Computational Challenges in Propositional Reasoning and Search
9 Challenge: How IJCAI 1999 Can Prove the Value of AI by Using AI

Policy on Multiple Submissions

IJCAI 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 IJCAI's review period. These restrictions apply only to journals and conferences, not to workshops and similar specialized presentations with a limited audience.

Paper Format

All six copies of a submitted paper must be clearly legible. Letter-quality print is required. Normally, dot-matrix printout is unacceptable unless truly of letter quality. Exceptions will be made for submissions from countries where high-quality printers are not widely available. We cannot accept e-mail or FAX submissions of full papers. Submissions must be printed on 8-1/2 x 11 inch or A4 paper.

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), tracking number from electronic submission of title page (if any, see above), and acknowledgments (if any). In addition, it must contain the following declaration:

> This paper has not already been accepted by nor is it currently under review for a journal or another conference, nor will it be submitted for such during IJCAI's review period.

Please do not staple the title page to the body of the paper.

Paper Body

The paper body begins on the second page, and should be formatted identically with the format for camera-ready copy of accepted papers as described in the next paragraph (except that authors' names and affiliations should be omitted).

Detailed instructions on the required format are available from IJCAI's home page on the World Wide Web. In addition, macros for word-processing systems to facilitate the formatting of paper submissions will be available from IJCAI's home page:

http://www.ijcai.org/ijcai-99/home.html

You can also get formatting instructions and macros by sending e-mail to info@ijcai.org; the server will respond with instructions.

Submissions must not exceed six pages in camera-ready format. Overlength papers will be returned without review. Each accepted paper will be allowed six pages in the proceedings; up to two additional pages may be purchased at a price of $250 per page.

Authors from countries in which access to word-processing systems is limited may submit unformatted papers. The body of these submissions must be at most 6200 words, including footnotes, figure captions, tables, appendices, and bibliography. Each half-page of figures will be counted as 500 words. Papers longer than 6200 words will be returned without review. Authors submitting unformatted papers must include a word count on the first page of their paper body.

In order to make blind reviewing possible, authors should omit their names and affiliations from the paper body. In place of their names and affiliations, they should provide the list of content areas and their paper's tracking number. (Authors without access to Web browsers, who therefore did not submit electronic abstracts, may omit the tracking number.)

Also, while the references should include all published literature relevant to the paper, including previous works of the authors, it 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, Dean [7] has shown that...", rather than "In our previous work [7] 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.

Review Process

Papers will be subject to blind peer review; reviewers will not be aware of the identities of the authors. Selection criteria include accuracy and originality of ideas, clarity and significance of results and quality of the presentation.

The decision of the Program Committee will be final and cannot be appealed. Papers selected will be scheduled for presentation and will be printed in the Proceedings. Authors of accepted papers, or their representatives, are expected to present their papers at the conference.

Paper Submissions and Inquiries

The American Association for Artificial Intelligence will provide administrative support to the IJCAI-99 Program Committee. Paper submissions should be sent to the address below. Note that the first line of the address must be "IJCAI-99".

IJCAI-99
American Association for Artificial Intelligence
445 Burgess Drive
Menlo Park, CA 94025-3496 USA

Please send program suggestions and inquiries to:

Prof. Thomas Dean, Program Chair
Department of Computer Science
Brown University
Box 1910, Providence, RI 02912
E-mail: ijcai-pc@cs.brown.edu
FAX: +1-401-863-7657

Call for Workshop Proposals

The IJCAI-99 Program Committee invites proposals for the Workshop Program for IJCAI-99, to be held in Stockholm, Sweden. Workshops will be held in the period of July 31 - August 2, immediately before the start of the main conference.

IJCAI-99 workshops will provide an informal setting where workshop participants will have the opportunity to discuss specific technical topics in an atmosphere that fosters the active exchange of ideas. Members from all segments of the AI community are invited to submit workshop proposals for review. Workshops at the boundaries between sub-areas of AI are particularly encouraged.

To encourage interaction and a broad exchange of ideas, the workshops will be kept under 40 participants. Attendance is limited to active participants only.

Workshops are intended to be genuinely interactive events and not miniature conferences. Thus, although the format of workshop presentations will be determined by the organizers proposing the workshop, ample time must be allotted for general discussion. Workshops can vary in length, but most will last a full day. Workshop attendees must register for the main IJCAI conference.

Requirements for Submission

Proposals for workshops should be between two and three pages in length, and should contain the following information:

- A brief technical description of the workshop, specifying the workshop goals and the technical issues that will be its focus.

- A brief discussion of why and to whom the workshop is of interest.

- A preliminary workshop agenda and a proposed schedule for organizing the workshop. This should include a brief description of how the organizers intend to encourage an atmosphere appropriate for a workshop.

- If available, a list of tentatively confirmed attendees.

- A list of related workshops taking place within the last three years, if any, and their relation to the proposed workshop.

- The names, postal addresses, phone numbers, and e-mail addresses (if available) of the proposed workshop organizing committee. This committee should consist of three or four people knowledgeable about the technical issues to be addressed. These people cannot all work at the same institution.

- The name of the primary contact for the organizing committee; this person must have an e-mail address.

- A description of the qualifications of the individual committee members with respect to organizing an IJCAI workshop, including a list of workshops previously arranged by any members of the proposed organizing committee, if any.

Proposers are encouraged to send their draft proposal to potential participants for comments before submission.

Timetable

All proposals should be submitted by electronic mail, to **thrun@cs.cmu.edu**, in plain ASCII text, as soon as possible but no later than October 1, 1998. Prospective organizers will be notified of the committee's decision no later than November 4, 1998.

Each workshop organizing committee will be responsible for producing a Call for Participation in the workshop by December 1, 1998. The call must make it clear that the workshop is open to all members of the AI community. It should also note that all workshop participants must register for the IJCAI conference and that the number of participants is strictly limited.

Finally, it should also make clear the process by which the Organizing Committee will select the participants.

By April 30, 1999, workshop organizing committees must provide provisional lists of workshop participants, any working notes to be duplicated for the workshops (up to a total of 200 pages per participant), and a list of audio-visual requirements and any special room requirements. Final lists of workshop participants must be provided by June 15, 1999.

Important Dates for Workshops

- October 1, 1998: Proposal Submission Deadline
- November 4, 1998: Acceptance Notification
- December 1, 1998: Deadline for Receipt of Call for Participation
- April 30, 1999: Deadline for Provisional List of Workshop Participants
- June 15, 1999: Deadline for Final List of Workshop Participants
- July 31 – August 2, 1999: IJCAI-99 Workshops
- December 15, 1999: Deadline for Receipt of Workshop Review

Call for Tutorial Proposals

By December 15, 1999, the workshop organizing committees must prepare a review of their workshops for possible publication. The review should be sent to the workshop chair.

IJCAI will be responsible for the following:

- Providing a meeting place and logistical support for the workshop.

- In conjunction with the organizers, determining the workshop date and time. (Organizing committee constraints will be accommodated to the greatest possible extent, but the workshop chair has the final decision on any given workshop's date and time.)

- Duplicating working notes as described above and distributing them to the participants.

IJCAI encourages the production of publications based on the workshops, but the IJCAI name cannot be used on such publications without prior permission. IJCAI reserves the right to cancel any workshop if deadlines are missed or if too few attendees register for the workshop to support the costs of running the workshop.

To cover costs, it will be necessary to charge workshop participants a workshop fee in addition to the normal IJCAI-99 conference registration fee.

Please send your proposals and any inquiries to:

Sebastian Thrun
IJCAI-99 Workshops
Computer Science Department
Carnegie Mellon University
5000 Forbes Ave.
Pittsburgh, PA 15213-3891
E-mail: thrun@cs.cmu.edu
Phone: (412) 268-8077
FAX: (412) 268-5576

The IJCAI-99 Program Committee invites proposals for the Tutorial Program for IJCAI-99, to be held in Stockholm, Sweden. Tutorials will be held in the period of August 1-2, immediately before the start of the main conference.

Tutorials will be offered both on standard topics and on new and more advanced topics. A list of suggested topics for tutorials is given below; this list is only a guide, however, and other topics will be considered.

Important Dates for Tutorials

- October 1, 1998: Proposal Submission Deadline
- November 4, 1998: Acceptance Notification
- December 1, 1998: Deadline for Receipt of Title, Abstract, and Speaker Biography
- April 30, 1999: Deadline for Receipt of Course Materials
- August 1- 2, 1999: IJCAI-99 Tutorials

Suggested topics for tutorials

Analogical and Inductive Inference
Logics for AI and Inference Techniques
Reasoning About Knowledge
Temporal and Spatial Reasoning
Probabilistic Reasoning and Uncertainty
Planning and Scheduling
Case-based Reasoning
Machine Learning
Neural Networks - Principles and Applications
Computer Vision
Natural Language Processing
Mobile Robot Navigation
Motion Planning in Robotics
Programming and Reasoning with Constraints
Architectures for AI Systems
Distributed AI
Knowledge Acquisition - Theory and Practice
Knowledge Discovery and Data Mining
Intelligent Environments to Support Human Learning
Intelligent Interfaces
Innovative Applications of AI Techniques
AI in Engineering Design
AI in Education

Requirements for Submission

Those interested in presenting a tutorial should submit a proposal to the IJCAI-99 Tutorial Chair, Prof. Boi Faltings. A tutorial proposal should contain the following information:

- A brief description of the tutorial, suitable for inclusion in the conference registration brochure.

- A detailed outline of the tutorial.

- The necessary background and potential target audience for the tutorial.
- A description of why the tutorial topic is of interest to a substantial part of the IJCAI audience.
- A brief resume of the presenter(s), which should include name, postal address, phone and fax numbers, e-mail address if available, background in the tutorial area, any available example of work in the area (ideally, a published tutorial-level article on the subject), evidence of teaching experience (including references that address the proposer's presentation ability), and evidence of scholarship in AI/computer science (equivalent to a published IJCAI conference paper or tutorial syllabus).

Those submitting a proposal should keep in mind that tutorials are intended to provide an overview of the field; they should present reasonably well established information in a balanced way. Tutorials should not be used to advocate a single avenue of research, nor should they promote a product.

Timetable

Proposals must be received by October 1, 1998. Decisions about topics and speakers will be made by November 4, 1998. Accepted tutorial presenters must provide title and abstract for their tutorial, and a brief biography and photograph for publicity, by December 1, 1998. They will then be sent a set of guidelines for the preparation of course materials, which will be due on April 30, 1999. Please note that IJCAI will normally duplicate no more than 200 pages per participant.

IJCAI reserves the right to cancel any tutorial if deadlines are missed or if too few attendees register for the tutorial to support the costs of running the tutorial.

Proposals should be sent to:

Boi Faltings
Artificial Intelligence Laboratory (LIA)
Computer Science Department (DI)
Swiss Federal Institute of Technology (EPFL)
IN-Ecublens
1015 Lausanne
Switzerland
E-mail: faltings@lia.di.epfl.ch
FAX: +41-21-693-5225

Call for Nominations for IJCAI-99 Awards

The IJCAI Award for Research Excellence

The IJCAI Award for Research Excellence is given at the IJCAI conference to a scientist who has carried out a program of research of consistently high quality yielding several substantial results. If the research program has been carried out collaboratively, the Award may be made jointly to the research team. Past recipients of this award are John McCarthy (1985), Allen Newell (1989), Marvin Minsky (1991), Raymond Reiter (1993), Herbert Simon (1995), and Aravind Joshi (1997).

The Award carries with it a certificate and the sum of US $2,000 plus travel and living expenses for the IJCAI conference. The recipient will be invited to deliver an address on the nature and significance of the results achieved and write a paper

> **Important Dates for IJCAI-99 Awards**
> - September 15, 1998: Names of Nominees Due
> - October 15, 1998: Nominations Due
> - August 3, 1999: IJCAI-99 Computers and Thought Award Presentation
> - August 5, 1999: IJCAI-99 Research and Excellence Award Presentation

for the conference Proceedings. Primarily, however, the Award carries the honor of having one's work selected by one's peers as an exemplar of sustained research in artificial intelligence.

We hereby call for nominations for The IJCAI Award for Research Excellence, which will be presented at IJCAI-99 in Stockholm, Sweden, on August 5, 1999. The section below on Nomination Procedures provides the relevant details.

The Computers and Thought Award

The Computers and Thought Lectures are presented at IJCAI conferences to outstanding young scientists in artificial intelligence. Past recipients of this honor have been Terry Winograd (1971), Patrick Winston (1973), Chuck Rieger (1975), Douglas Lenat (1977), David Marr (1979), Gerald Sussman (1981), Tom Mitchell (1983), Hector Levesque (1985), Johan de Kleer (1987), Henry Kautz (1989), Rodney Brooks (1991), Martha Pollack (1991), Hiroaki Kitano (1993), Sarit Kraus (1995), Stuart Russell (1995), and Leslie Kaelbling (1997).

The Award carries with it a certificate and the sum of US $2,000 plus travel and living expenses for the IJCAI conference. The lecture, to which the public is invited, is given one evening during the conference. The lecturer is encouraged to publish the lecture in the Conference Proceedings. The lectureship was established with royalties received from the book Computers and Thought, edited by Edward Feigenbaum and Julian Feldman; it is currently supported by income from IJCAII funds.

We hereby call for nominations for the Computers and Thought Award, which will be presented at IJCAI-99 in Stockholm, Sweden, on August 3, 1999. The section below on Nomination Procedures provides the relevant details.

Nomination Procedures for IJCAI Awards

Nominations for the IJCAI Research Excellence Award and the Computers and Thought Award are invited from everyone in the international artificial intelligence community.

There should be a nominator and a seconder, at least one of whom must not be from the same institution as the nominee. Nominees for the 'Computers and Thought Award' cannot be older than 35 at the start of the conference. There are no other restrictions on nominees, nominators or seconders. Nominating and seconding statements for an award should be submitted on the Nomination and Reference Forms for the award. The forms, as well as suggestions for nominators, are available via http or anonymous FTP at the following addresses, or directly from the IJCAII President at the address below.

http://ijcai.org/awards/forms.txt
ftp://ijcai.org/pub/ijcai/awards/forms

Nominations should be sent to the President of IJCAII at the address below. The deadline for nominations is October 15, 1998. To avoid duplication of effort, nominators are requested to submit the name of the person they are nominating by September 15, 1998 so that people proposing to nominate the same individual may be so informed and can coordinate their efforts.

Dr. Michael P. Georgeff
The Australian Artificial
Intelligence Institute
Level 6
171 LaTrobe Street
Melbourne, Victoria, 3000
AUSTRALIA
Phone: (+61 3) 9663 7922
Fax: (+61 3) 9663 7937
E-mail: georgeff@aaii.com.au
Cc: tannock@aaii.com.au

URL for IJCAI-99:
http://ijcai.org/ijcai-99

Conference Officials

Conference Chair:
Prof. Luigia Carlucci Aiello

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Fax: +1 973 360 8896
E-mail: rjb@research.att.com

RoboCup – 99
The Third World Cup Robot Soccer will be
colocated with IJCAI-99.
For further information on RoboCup:
http://www.robocup.org
E-mail: silco@ida.liu.se (Silvia Coradeschi)

Stockholm – Beauty on Water

*Stockholm – the Royal Capital of Sweden – is
one of the most beautiful cities in the world. It
is situated on 14 islands and laced by waters
so clean that you can fish and swim right in
the middle of the city.*

Stockholm became the capital of Sweden 700
years ago. In the winding alleyways of the city´s
medieval Old Town section, the very air is
redolent with history. And yet, mere minutes
walking distance away is the throbbing pulse
of a modern city.

Since 1901 it has been the venue of the
Nobel Prize Ceremony, the most prestigious
of all meetings – and indeed the city makes a
fitting venue.

The reasons are basic; facilities and experience
are excellent, the city´s infrastructure is good
and it is a safe place to be.

The city offers many attractive options for
visitors. Perhaps the most breathtaking scenery
of all awaits visitors to the Stockholm archi-
pelago, which with 24 000 islands is one of
the largest archipelagos in the world.

Stockholm is also one of the communication
hubs and economical and cultural centers of the
Nordic area. Arlanda Airport handles some 200
flights daily to and from 40 countries and 5
continents. There are direct flights from most
major cities in Europe and from the large cities
in the U.S. and easy connections from the rest
of the world.

The local transportation is very efficient and
convenient. It consists of buses, trains and
underground. In the city center hotels, museums,
shops and restaurants are generally within walk-
ing distance, which makes Stockholm an ideal
city for strolls.

During the summer months Stockholm has a
very attractive climate with an average day and
night temperature of around 20 degrees Celsius
(70 degrees Fahrenheit).
*Stockholm is like a Swedish Smörgåsbord –
it has everything!*

Prices and Accommodation

The prejudice that Stockholm has one of the
highest price levels in the world is no longer
true. Prices have gone down substantially the
last five years. A normal lunch at a restaurant
costs around 6 US dollars, hotel prices vary from
USD 50 – 220, youth hostels around USD 25.
(1 USD is approx. 8 SEK.)

Hotels in the city are safe, clean and well-
kept. This is also true for smaller and cheaper
hotels. There are a large number of hotels
within walking distance from the City
Conference Center.

City Conference Center
The conference will be held at Stockholm City Conference Center/Norra Latin, which is located in the center of Stockholm. Norra Latin, once a school, is a magnificent old building that has recently been renovated. It now offers all conference amenities and provides an excellent setting for IJCAI-99.

Stockholm City

Buses from
Arlanda Airport

City Hall

Old Town

Scale: 1 cm = 200 m

Royal Castle

Boats to the
archipelago

For further information

Conference Arrangements Chair:
Prof. Anita Kollerbaur

Stockholm University and Royal Institute of Technology
Department of Computer and Systems Sciences
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