Preliminary Call for Papers and Participation

Twenty-First National Conference on Artificial Intelligence (AAAI-06)

July 16-20, 2006
Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

For the artificial intelligence community, 2006 is a special year, for it was fifty years ago when, at Dartmouth College, the term "artificial intelligence" was first introduced as a topic for a summer research project (www.aaai.org/AITopics/html/history.html). AAAI-06, the twenty-first National Conference on Artificial Intelligence, celebrates the fifty years of growth and diversity of our field. It also includes a number of new features to encourage the wide participation of researchers and practitioners in the field and related disciplines. The conference organizers encourage the following types of submissions, described in detail in this call for papers: *Senior member papers, AAAI nectar papers, technical conference papers, a special technical papers track on artificial intelligence and the web, a special technical papers track on integrated intelligent capabilities, and member posters.* Also included in this booklet are calls for all other programs to be held in conjunction with AAAI-06, including the tutorial forum, the workshop program, the student abstract and poster program, the eleventh AAAI/SIGART doctoral consortium, the intelligent systems demonstrations program, the fifteenth annual AAAI mobile robot competition and exhibition, and the eighteenth Innovative Applications of Artificial Intelligence conference.

Call for Senior Member Papers

Cochairs: Kathy McKeown, *Columbia University*
Dan Weld, *University of Washington*

New this year, the Senior Member Presentation Track provides an opportunity for established researchers to give a broad talk on a well-developed body of research, an important new research area, or a thoughtful critique of trends in the field. These presentations should provide a "big picture" view—in contrast to regular papers, which may focus on a specific contribution. Submissions are short (a two-page abstract, plus biography and references) and review will be expedited.

Submissions will only be considered from researchers who are at least ten years out from their Ph.D., and have a track record of publishing on their topic. Researchers submitting in the senior member track must not be the first author on any other submission. Authors who have an accepted senior member presentation are not eligible to submit to the senior member track again for at least three years.

Submissions must be no more than four pages long, and must adhere to the following guidelines. The first two pages should comprise an extended abstract for the proposed talk (including the title, author name, and affiliation); these pages should be formatted in AAAI two-column, camera-ready style. The submission should also include a two page abbreviated vita of the speaker, including a list of 5–10 relevant publications. Detailed style and format as well as submission instructions are available at the AAAI Web site.

Submissions will be rated on the expected interest to the community, novelty, balance with other accepted presentations, reputation of the author, and the time interval since the author last presented any form of invited talk at AAAI. In contrast to papers submitted to other tracks of AAAI, Senior member submissions will not be reviewed blind. They will be reviewed by a program committee distinct from that used by the technical conference papers track.

Call for AAAI Nectar Papers

Cochairs: AnHai Doan, *University of Illinois at Urbana-Champaign*
Elaine Rich, *University of Texas at Austin*

As AI matures and becomes increasingly interdisciplinary, many of the AI community's most exciting results appear in the proceedings of AAAI's sister conferences and conferences in related fields. AAAI-06 will include a new special paper track designed to highlight those results in a way that is accessible to the broad AI audience.

This new track, AAAI Nectar (new scientific and technical advances in research), will consist of papers that are based on a result that has already appeared in the proceedings of at least one major, AI-related conference in 2004, 2005, or 2006. Examples of such conferences include A-LIFE, AAMAS, ACL, CogSci, ICAPS, ICML, ISWC, IUI, KCAP, KR, NIPS, ICRA, and UAI. Examples of conferences in related fields with relevance to AI are KDD, SIGIR, SIGMOD, VLDB, and WWW.

One important goal of the track is to offer young researchers the opportunity to learn about areas with which they may not already be familiar. Another goal is to encourage the sort of cross-disciplinary AI work that has historically been supported by AAAI.

We solicit short submissions of up to four pages. Each submission should focus on a major result that has already been described by the author in one or more papers in the above conferences during the period 2004–2006. The Nectar paper should cite the previous publications and should devote no more than a page to summarizing the core result. The remainder of the paper should be devoted to putting the result, as well as the problem it solves, into a context that is meaningful to a wide AI audience.

The AAAI Nectar track will include both invited and submitted papers, which will be presented as short talks or as posters in a special section at AAAI-06. The papers will also be published in the conference proceedings. Submitted papers will be reviewed according to: (1) significance of the result to the broad goals of AI, (2) potential for the result to influence work in other areas of AI, and (3) clarity of the presentation to a wide AI audience.

Call for Technical Conference Papers

Cochairs: Yolanda Gil, *USC Information Sciences Institute*
Raymond Mooney, *University of Texas at Austin*

AAAI-06 welcomes submissions on traditional AI topics as well as novel cross-cutting work in related areas. Topics include but are not limited to the following:

- Agents
- Cognitive architectures
- Cognitive modeling
- Commonsense reasoning
- Game playing and interactive entertainment
- Information integration
- Knowledge bases and expert systems
- Knowledge representation and reasoning
- Machine learning and data mining
- Natural language processing
- Neural networks
- Planning and problem solving
- Probabilistic reasoning
- Robotics
- Semantic web
- Vision and perception

AAAI-06 specifically encourages submissions that combine results from multiple research areas within and outside AI, such as the following:

- Autonomic computing
- Autonomous behavior and learning
- Grounded representations
- Knowledge bases through text extraction
- Large-scope and large-scale challenge problems
- Learning in problem solving situations
- Natural language interaction with intelligent systems
- Perception and sensor networks
- Robust and scalable architectures for distributed representation and reasoning
- security and privacy

AAAI-06 is also seeking submissions for two new special tracks of conference papers: "Integrated Intelligent Capabilities" and "Artificial Intelligence and the Web." The topics relevant to these two tracks are described in detail elsewhere in this booklet These tracks will have additional review criteria, and will have program committees of reviewers with appropriate background in those areas. The submissions to these tracks will also be reviewed in most cases by members of the conference program committee and overseen by the track cochairs and the conference program chairs. These tracks will be an integral part of the conference program and will be subject to the high standards and rigorous review that are traditional in AAAI. They will be allocated consecutive sessions at the conference and as a result a portion of the program will be devoted solely to each of the tracks.

Program committee members will identify papers they are qualified to review based on the information submitted electronically (the paper's title, keywords, and abstract). Their reviewing will be done blind to the identities of the authors and their institutions. Submissions to the special technical paper tracks will be reviewed by the program committees for the track as well as by the program committee for the technical papers. The program committee's reviews will make recommendations to the senior program committee, which in turn will make recommendations to the program cochairs. Although the program cochairs will formally make all final decisions, in practice almost all decisions will be made earlier in the process.

Technical conference submissions, whether on general topics or special track topics, may be no longer than six pages including references, and formatted in AAAI two-column, camera-ready style. Submissions of technical conference papers should be prepared to be blind to the identities of the authors.

Call for Papers: Special Track on Integrated Intelligent Capabilities

Cochairs: Art Graesser, *University of Memphis*
Reid Simmons, *Carnegie Mellon University*

To solve complex, real-world problems, AI systems often must integrate a variety of component technologies, such as vision, classification, speech, memory, language, dialogue, planning, problem solving, learning, and goal-driven action. Robots, autonomous software agents, and intelligent tutoring systems with natural language dialogue are prototypical examples of these integrated intelligent systems. Some, but not all, of these integrated intelligent systems are inspired by theories in cognitive science and biological systems.

Papers submitted to this track should report on theoretical or empirical studies that highlight the role of integration of multiple components in achieving intelligent behavior. Papers submitted to this track should articulate the mechanisms for integrating multiple components and the salient characteristics of individual components that facilitate such integration. Preference will be given to papers that evaluate the systems in accounting for and explaining system performance. The systems reported on may vary from small-scale integrations of two or more components to large-scale systems that function as robust autonomous agents. Projects that focus on individual component technologies are not suitable for this track. Relevant topics include the following:

Autonomous agents
Cognitive architectures and modeling
Robot architectures
Intelligent tutoring systems
Communication architectures
Multimodal communication
Multi-agent/multi-robot coordination
Human-robot/human-computer interaction
Multisensory fusion
Sensori-motor activity

Papers to this track must be submitted in accordance with the instructions for submission to the general call for technical conference papers. Submitted papers will be reviewed by qualified reviewers drawn from a special track committee as well as the general program committee, with the final selections determined by the track co-chairs in conjunction with the AAAI-06 cochairs. Submissions to this special track that are deemed not to be relevant may be considered for review for the general technical papers track at the discretion of the chairs.

Call for Papers: Special Track on Artificial Intelligence and the Web

Cochairs: Tim Finin, *University of Maryland, Baltimore County*
Dragomir Radev, *University of Michigan*

The Web has quickly grown from a modest hypertext system of interest to computer researchers to a ubiquitous information system including virtually all of human knowledge. Today's Web provides ready access to not only text, images, and audio files, but also to structured and semistructured information, services, and people. It offers an open, decentralized (and uncontrollable!) environment in which anyone can publish information and services coupled with powerful search engines and agents to find and rank results. All of this is ubiquitously available from wired, wireless, and mobile devices. Oh, and did we mention that it's free?

The result is an environment enormously useful to people for research, learning, commerce, socializing, communication and entertainment. We have just begun to explore how this vast amount of machine accessible knowledge can be exploited and used by machines—to better serve human needs as well as to discover new knowledge.

The special track on AI and the Web invites technical papers on the use of AI techniques, systems and concepts involving the Web. We are especially interested in receiving papers in two active research areas: (1) using text and language analysis to interpret and understand natural language text found on the web and (2) developing and exploiting semantic web languages and systems that explicitly encode

knowledge using languages such as RDF and OWL. Innovative papers in other areas describing research involving both AI and the Web are definitely encouraged also. The AAAI-06 track on AI and the Web welcomes submissions on all topics relevant to the track, including the following:

Semantic web:

- Information integration
- New/better/different KR languages for the semantic web (such as RuleML)
- Semantic web grounded policy languages
- Semantic web and agents
- Semantic web in mobile and pervasive computing
- Semantic web ontologies
- Semantic web services
- Social aspects of web semantics
- Tags and folksonomies
- Proof, trust and provenance for web information
- Applications

NLP and the Web:

- Cross-language IR for the web
- Enhancing IR and web search
- Information extraction on the web
- Knowledge acquisition from the Web
- NLP for automating markup
- Machine translation for and using the Web
- Opinion extraction
- Question answering on the web
- Text summarization
- Applications

Other AI and the Web related topics:

- AI and web-based ecommerce
- AI for P2P and GRID environments
- Intelligent information retrieval
- Intelligent user interfaces for Web systems
- Multiagent systems on the Web
- Ontologies for the Web (not semantic web related)
- Mining web logs, query logs, blogs
- Recognizing web spam (such as link farms, blog spam)
- Recommendation systems
- Social networking and community identification
- Trend spotting
- Link-analysis and graph mining on the Web
- Graph based methods for analyzing Web information
- Web personalization and user modeling

Prospective submitters unsure if their paper is relevant to this track may send queries to aiweb06@cs.umbc.edu.

Papers for this special track should be prepared and submitted following the general technical conference paper submission guidelines. Submitted papers will be reviewed by qualified reviewers drawn from a special track committee as well as the general program committee, with the final selections determined by the track cochairs in conjunction with the AAAI-06 cochairs. Submissions to this special track that are deemed not to be relevant may be considered for review for the general technical papers track at the discretion of the chairs.

Call for Member Abstracts and Posters

Cochairs: Dieter Fox, University of Washington
Ion Muslea, Language Weaver

AAAI-06 invites submissions to the Member Abstracts and Poster program. The goal of this novel program is to provide a forum in which AAAI members can present and discuss their work based on a submitted abstract, rather than a regular AAAI paper. In order to stimulate cross-fertilization and the free circulation of ideas, AAAI encourages its members to submit posters of various types: (1) original, unpublished work, (2) summary of a recently published paper, or (3) overview or synthesis of the author's work in a particular field or application of AI.

Each member can submit at most one abstract, and only if they are not authors of any accepted submissions to any other AAAI-06 conference program. Abstracts will be accepted or rejected for this program solely based on merit, regardless of the outcomes of related paper submissions.

Abstracts must be no longer than two pages including references. The abstract must include the following: title; the primary author's full name, affiliation, postal address, telephone number, URL (if available), and e-mail address; all coauthors' full names and affiliations; type (that is, original, unpublished research; summary of a recent paper; overview of the author's work in a field or application of AI; other [please specify]); text and any figures, tables, or diagrams. The abstract may also contain a URL of a location where reviewers can access complementary material about the member's research.

Member abstracts will be made available via the AAAI Web site (in order to have as late a submission date as possible, the abstracts cannot be included in the AAAI proceedings). All AAAI members will be able to access member posters. Authors of accepted member abstract submissions must register for the conference in order for their submission to be included on the Web site.

Accepted abstracts will be allocated presentation time and space in the member poster display area at the conference. Member 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 member poster display area.

Information for Authors

Author Registration

Authors must register at the AAAI-06 web-based technical paper submission site. The software will assign a password, which will enable the author to log on to submit an abstract and paper in any category. In order to avoid a rush at the last minute, authors are encouraged to register as soon as the software is available, scheduled for December 2005.

General Submission Instructions

Electronic paper submission is required. We cannot accept submissions by e-mail or fax. Instructions about how to submit papers electronically will be available at the AAAI web site (www.aaai.org) in the fall of 2005. Authors should submit abstracts and papers through the technical paper submission software no later than the due date, and preferably prior to that date. The software will assign a paper ID number at the time of the submission. Authors will receive confirmation of receipt of their papers shortly after submission. AAAI will contact authors again only if problems are encountered with papers. Inquiries regarding lost papers must be made no later than a week after the submission deadline. Over-length submissions and those failing to comply with the submission requirements will be rejected. Authors will be required to transfer copyright of their papers to AAAI. For any questions concerning author instructions, write to: aaai06@aaai.org.

Timetable for Authors

Technical conference papers (general topics plus the special tracks on integrated intelligent capabilities and AI and the Web):

Submission: February 21
Notification: April 14
Final version: April 25

Senior member papers and Nectar papers:

Submission: March 14
Notification: April 5
Final version: April 25

Member abstracts and posters:

Submission: April 19
Notification: May 12
Final version: May 22

Submissions to Other Conferences or Journals

Papers submitted to AAAI-06 must not have been accepted for publication elsewhere or be under review for another AI conference. However, to encourage interdisciplinary contributions, we may consider work that has been submitted or presented in part to a forum outside of AI. The AAAI Nectar paper submissions have specific guidelines that can be found in the call for papers. The guidelines of the AAAI policy on multiple submissions are fully detailed at the AAAI-06 web site and must be carefully followed.

Publication

Accepted technical conference papers, including special track papers on integrated intelligent capabilites and AI and the web will be allocated six pages in the conference proceedings. Up to two additional pages may be used at a cost to the authors of $275 per page. Final papers exceeding eight pages and those violating the instructions to authors will not be included in the proceedings. Authors will be required to transfer copyright of their paper to AAAI.

Accepted AAAI Nectar papers will be allocated four pages in the conference proceedings. Accepted senior member papers will be allocated two pages in the conference proceedings. Accepted student papers will be allocated two pages in the conference proceedings. No additional pages may be requested for AAAI Nectar papers, senior member papers, or student papers.

Accepted member abstracts will be accessible on the AAAI conference web site to all AAAI members. They will not be included in the conference proceedings.

Questions and Suggestions

Concerning author instructions and conference registration, write to: aaai06@aaai.org. Concerning suggestions for the conference and other inquiries, write to the chairs of the specific submission calls or to the Conference Program cochairs:

Yolanda Gil
Information Sciences Institute
University of Southern California
gil@isi.edu

Raymond J. Mooney
University of Texas at Austin
mooney@cs.utexas.edu

Organizing Committee

Program Cochairs

Yolanda Gil, *Information Sciences Institute, University of Southern California*
Raymond Mooney, *University of Texas at Austin*

AI and the Web Track Cochairs

Tim Finin, *University of Maryland at Baltimore County*
Dragomir Radev, *University of Michigan at Ann Arbor*

Integrated Intelligent Capabilities Track Cochairs

Art Graesser, *University of Memphis*
Reid Simmons, *Carnegie Mellon University*

Senior Member Papers Cochairs:

Kathy McKeown, *Columbia University*
Dan Weld, *University of Washington*

Member Posters Cochairs

Dieter Fox, *University of Washington*
Ion Muslea, *Language Weaver*

AAAI Nectar Cochairs:

AnHai Doan, *University of Illinois at Urbana-Champaign*
Elaine Rich, *University of Texas at Austin*

For a complete listing of program committee members for each track, please see www.aaai.org.

Call for Proposals

AAAI-06 Tutorial Forum

July 16–17 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

THE AAAI-06 PROGRAM COMMITTEE invites proposals for the Tutorial Forum of the Twenty-first National Conference on Artificial Intelligence (AAAI-06). The Tutorial Forum will be held July 16–17, 2006 in Boston, Massachusetts. Anyone interested in presenting a tutorial at AAAI-06 should submit a proposal to Qiang Yang, 2006 Tutorial Forum cochair, at the address that follows.

What Is the Tutorial Forum?

The Tutorial Forum provides an opportunity for junior and senior researchers to spend two days each year freely exploring exciting advances in disciplines outside their normal focus. We believe this type of forum is essential for the cross fertilization, cohesiveness, and vitality of the AI field. We all have a lot to learn from each other; the Tutorial Forum promotes the continuing education of each member of the AAAI.

Topics

AAAI is interested in proposals for advanced tutorials at the leading edge of AI. We are particularly interested in tutorials that offer two types of knowledge. The first type provides in-depth background tools to help educate researchers and students for the purpose of conducting AI research; examples of this type of tutorials from AAAI-05 include "Exploiting Structure and Randomization for Large-Scale Constraint Reasoning," and "Systematic Bounding Techniques for Combinatorial Optimization." A second type of tutorial provides a broad overview for an AI area that potentially crosses boundaries with an interesting application area; examples of this type of tutorial from AAAI-05 include "Bioinformatics and Machine Learning" and "Sensor Networks: New Challenges and Opportunities for AI."

Our goal is to present a diverse program that includes core areas of AI, new techniques from allied disciplines that can inform research within AI, and conversely emerging applications of AI techniques to new areas. Previous years' tutorial programs provide an indication of the scope and variety of possible topics. The list is not exclusive; indeed, we are expressly interested in topics that we would not have imagined to mention. Finally, note that we very much welcome proposals for educational approaches that go beyond the traditional format of four-hour tutorials, exploiting the flexibility that the one-fee program offers.

Submission Requirements

We need two kinds of information in the proposals: information that will be used for selecting proposals and information that will appear in the tutorial description brochure. The proposal should provide sufficient information to evaluate the quality of the technical content being taught, the quality of the educational material being used, and the speakers' skill at presenting this material.

Each proposal should include at least the following:

Goal of the tutorial: Who is the target audience? What will the audience walk away with? What makes the topic innovative?

Content: Detailed outline and list of additional materials, augmented with samples, such as past tutorial slides and survey articles, whenever possible. Be as complete as possible

Tutorial description: A short paragraph summarizing the tutorial outline.

Prerequisite knowledge: What knowledge is assumed.

Please also submit the following information about the team of presenters: name, mailing address, phone number, email address; background in the tutorial area, including a list of publications and/or presentations; any available examples of work in the area (ideally, a published tutorial-level article or presentation materials on the subject); evidence of teaching experience (courses taught or references); and evidence of scholarship in AI or computer science.

Submission Deadline

Proposals must be received by October 28, 2005. Decisions about the tutorial program will be made by December 1, 2005. Speakers should be prepared to submit completed course materials by May 26, 2006. Please e-mail proposal material to Qiang Yang at the following address. Hard copy submissions will also be accepted.

Tutorial Cochairs

Qiang Yang
Department of Computer Science
Hong Kong University of Science and Technology
Clearwater Bay, Kowloon Hong Kong, China
852-2358-8768
852-2358-1477 (fax)
qyang (at) ust.hk

Carla Gomes
Department of Computer Science
5133 Upson Hall
Cornell University
Ithaca, NY 14853, USA
607-255-9189
607-255-4428 (fax)
gomes@cs.cornell.edu

Call for Proposals

AAAI-06 Workshop Program

July 16–17 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

THE AAAI-06 PROGRAM COMMITTEE invites proposals for the Workshop Program of the American Association for Artificial Intelligence's Twenty-first National Conference on Artificial Intelligence (AAAI-06).

Workshops are tentatively scheduled to be held at the beginning of the conference, July 16–17, 2006. Workshop participants will have the opportunity to meet and discuss issues with a selected focus-providing an informal setting for active exchange among researchers, developers and users on topics of current interest. Members of all segments of the AI community are encouraged to submit proposals. To foster interaction and exchange of ideas, the workshops will be kept small, with 25–50 participants. Attendance is limited to active participants only. The format of workshops will be determined by their organizers, who are encouraged to leave ample time for general discussion. Workshops will typically be one full day in length, although half-day and two-day proposals will be considered.

Proposal Content

Proposals for workshops should be about two pages in length, and should contain the following: (1) A description of the workshop topic. Identify the specific issues on which the workshop will focus. (2) A brief discussion of why the topic is of particular interest at this time. (3) A brief description of the proposed workshop format, regarding the mix of events such as paper presentations, invited talks, panels, and general discussion. (4) An indication as to whether the workshop should be considered for a half-day, one or two-day meeting. (5) The names and full contact information (e-mail and postal addresses, fax and telephone numbers) of the organizing committee-three or four people knowledgeable in the field-and short descriptions of their relevant expertise. Strong proposals include organizers who bring differing perspectives to the workshop topic and who are actively connected to the communities of potential participants. (6) A list of potential attendees.

Workshops are an excellent forum for exploring emerging approaches and task areas, for bridging the gaps between AI and other fields or between subfields of AI, for elucidating the results of exploratory research, or for critiquing existing approaches. Because workshops are intended for focused exploration of special topics, topics that are already the subject of regular meetings are not appropriate.

Workshop Organization

Workshop organizers will be responsible for the following:

Producing a call for participation. The Call is due November 11, 2005. This Call will be posted on the AAAI web site. Organizers are responsible for additional publicity such as distributing the Call to relevant newsgroups and electronic mailing lists, and especially to potential audiences from outside the AAAI community. Organizers are encouraged to maintain their own web site with updated information about the workshop.

Selecting participants. Workshop attendance is by invitation of the organizers. Selection of attendees will be made by the organizers on the basis of submissions due April 18, 2006. Workshop organizers will need to provide AAAI with a preliminary list of the participants by May 10, 2006.

Coordinating the production of the workshop notes. AAAI coordinates the collection, production, and distribution of the technical reports or working notes for the workshops. Workshop papers and abstracts must be received by AAAI no later than May 17, 2006, and are limited to a total of 200 pages.

Workshop organizers who want to publish the papers from their workshop (or significant portions of it) will have the opportunity to do so through the AAAI Press and *AI Magazine*. The Press and *AI Magazine* (which retains the right of first refusal to publish) will furnish details of its program to interested organizers and authors.

AAAI will provide logistic support, and meeting places for the workshops, and will determine the dates and times of the workshops. AAAI reserves the right to drop any workshop if the organizers miss the above deadlines. Workshops are not to be used as a vehicle for marketing products. All workshop participants must register for the AAAI-05 technical program.

Proposal Submission

Workshop proposals should be submitted to Joyce Chai or Keith Decker at the address below as soon as possible and must be received no later than October 3, 2005. Email submissions in PDF format are preferred. Organize rs will be notified of the committee's decision by October 24, 2005. Please address inquiries concerning workshop submissions to:

Joyce Chai (cochair)
Department of Computer Science and Engineering
Michigan State University, East Lansing, MI 48824
517-432-9239 517-432-1061(fax)
jchai@cse.msu.edu

Keith Decker (cochair)
Department of Computer and Information Sciences
University of Delaware, 77 East Delaware Avenue
Newark, DE 19716-2586
302-831-1959 302-831-4091 (fax)
decker@cis.udel.edu

Call for Participation

AAAI-06 Student Abstract and Poster Program

July 16–20 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

AAAI-06 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.

Submissions and Dates

Electronic submission in PDF format is required. Students should submit an abstract describing their research no later than January 26, 2006. Abstracts must be no longer than 2 pages including references, and formatted in AAAI two-column, camera-ready style. Instructions about how to submit abstracts will be available at the AAAI conference web site (www.aaai.org/Conferences/National/2006/) after October 1, 2005. Papers exceeding the specified length and formatting requirements are subject to rejection without review.

The abstract must include the following: (1) title; (2) the primary author's full name, affiliation, postal address, telephone number, URL (if available), and e-mail address; (3) all coauthors' full names and affiliations; text; and (4) any figures, tables, or diagrams. The abstract should also contain a URL of a location where reviewers can access complementary material about the student's research. The URL is critical to reviewers because of the brevity of the hard-copy submission.

Notification of acceptance or rejection of submitted abstracts will be mailed to the author by March 24, 2006. Camera-ready copy of accepted abstracts will be due by April 11, 2006.

Submissions to AAAI-06 or Other Conferences

Students are free to submit abstracts for work reported in a regular paper submitted to the AAAI-06 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.

Publication

Accepted abstracts will be allocated two pages in the conference proceedings, to be formatted in AAAI two-column style. 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 Inquiries

Registration and call clarification inquiries may be sent to:

AAAI-06 Student Abstracts
American Association for Artificial Intelligence
445 Burgess Drive
Menlo Park, CA 94025-3442 USA
aaai06@aaai.org

All other inquiries and suggestions should be directed to the Student Abstract and Poster Program cochairs:

Maria Fox
Department of Computer Science and Information Sciences, University of Strathclyde, UK
Maria.Fox@cis.strath.ac.uk

Lynn Stein
Franklin W. Olin College of Engineering
las@olin.edu

Sailesh Ramakrishnan
Department of Electrical Engineering & Computer Science, University of Michigan
sailesh@umich.edu

Call for Applications

Eleventh AAAI/SIGART Doctoral Consortium

July 16–17 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence and ACM SIGART

Collocated with AAAI–06

AAAI AND ACM/SIGART INVITE STUDENTS to apply for the Eleventh AAAI/SIGART Doctoral Consortium. The Doctoral Consortium (DC) provides an opportunity for a group of Ph.D. students to discuss and explore their research interests and career objectives with a panel of established researchers in artificial intelligence. The consortium has the following objectives: (1) to provide a setting for mutual feedback on participants' current research and guidance on future research directions; (2) develop a supportive community of scholars and a spirit of collaborative research; (3) support a new generation of researchers with information and advice on academic, research, industrial, and nontraditional career paths; and (4) contribute to the conference goals through interaction with other researchers and participation in conference events.

The Doctoral Consortium will be held as a workshop on July 16-17, 2006, immediately before the start of the main conference. Student participants in the Doctoral Consortium will receive complimentary conference registration and a fixed allowance for travel and housing.

Important Dates for Application Submission

February 3, 2006: Application Package Submission Deadline
March 17, 2006: Acceptance Notification
July 16-17, 2006: Doctoral Consortium

The Application Packet

Applicants to the Doctoral Consortium must submit the following materials via the AAAI online submission site. Please combine all materials into one PDF document, formatted for US letter paper (8.5 x 11 inches). (1) *Thesis Summary.* A two-page thesis summary that outlines the problem being addressed, the proposed plan for research, and a description of the progress to date. Please be sure to distinguish between work that has already been accomplished and work that remains to be done. Be sure to include a title for your work. (2) *Background Information.* Information (at most two pages) on your background and relevant experience. This should include information typically found in a curriculum vita, plus additional information that may indicate your potential contribution to the DC. (3) *Letter of Recommendation.* A letter of recommendation from your thesis advisor. It must include an assessment of the current status of your thesis research, and an expected date for thesis submission. In addition, your advisor should indicate what he or she hopes you would gain from participation in the DC. (4) *Participant's Expectations.* A short (one page or less) statement of what you expect to gain from presenting and participating in the DC, as well as what you think you can contribute to the DC.

Please submit your application materials via the online AAAI Doctoral Consortium submission site at www.aaai.org/Conferences/National/2006/aaai06.html. Full instructions regarding your submission will be available at this site in December 2005.

Review Process

The consortium organizing committee will select participants on the basis of their anticipated contribution to the workshop goals. We solicit applications from any topic area and methodology within artificial intelligence. Students will be selected who have settled on their thesis direction, but still have significant research to complete. The perfect stage is having just had a research proposal accepted by the thesis committee. Students will be selected based on clarity and completeness of the submission packet, stage of research, advisor's letter, and evidence of promise such as published papers or technical reports.

At the Conference

The organizers invite all students to attend and participate in the Doctoral Consortium, whether or not they apply to present their work. In previous years, many nonpresenting students said they found it useful to observe their peers' presentations and to participate in the ensuing discussions.

All participants selected to present their work at the Doctoral Consortium are expected to be present throughout the consortium. Our experience has been that participants gain almost as much by interacting with their peers as by having their presentations critiqued by the faculty panel. As such, we expect a commitment from participating students to attend the entire DC.

Support for the 2006 Doctoral Consortium is provided by AAAI, ACM's SIGART, and Microsoft Research. Additional information may be obtained by contacting the chair of the organizing committee:

Kiri Wagstaff, Machine Learning Systems Group
Jet Propulsion Laboratory, Mail Stop 126-347
4800 Oak Grove Drive, Pasadena, CA 91109 USA
(818) 393-6393
(kiri.wagstaff@jpl.nasa.gov) http://ml.jpl.nasa.gov/

Call for Proposals

Intelligent Systems Demonstrations

July 16–20 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

THE AAAI INTELLIGENT SYSTEMS DEMONSTRATIONS program showcases state-of-the-art AI implementations and provides AI researchers with an opportunity to show their research in action. Implemented intelligent systems allow us not only to experimentally validate AI research, but also to make AI research accessible to each other, to the broader scientific community, and to the public at large.

Researchers from all areas of AI are encouraged to submit proposals to demonstrate their systems. Submissions will be evaluated on the basis of their innovation, relevance, scientific contribution, presentation, and usability, as well as potential logistical constraints. This program is primarily to encourage the early exhibition of research prototypes, but interesting mature systems and commercial products are also eligible (commercial sales and marketing activities are not appropriate in the Intelligent Systems Demonstration program, and should be arranged as part of the AAAI-06 Exhibits program). Demonstrations that can be used by the audience and/or that interact with the audience are particularly encouraged. A modest participation may be required for all accepted demo groups to cover the cost of set up and audiovisual needs.

It is likely that this program will be part of a conference-wide poster and demonstration session one evening during the conference. Demonstration systems should be available during the entire session. Each accepted demonstration system must be attended by at least one knowledgeable representative (preferably an architect of the system) who will be available to answer in-depth technical questions at scheduled times.

Demonstration proposals must be made electronically using the forms at the AAAI web site. Please check www.aaai.org/Conferences/National/2006/aaai06.html for further details after October 1, 2005. In addition to contact information, proposals must include the following items. All should be submitted via the online form, unless a video is being submitted. Please send videos directly to the cochairs.

(1) A two-page description in AAAI paper format of the technical content of the demo, including credits and references. These descriptions will appear in the conference proceedings. (Authors will be required to resubmit the paper upon acceptance of their proposal.)

(2) A 150-word summary of the demonstration in plain text. Please include title, demonstrator names, and affiliation(s). This summary will be used to compile a program for the demonstrations. Please keep the descriptions under the 150-word limit.

(3) A demo storyboard of not more than six pages total or an informal video of the demo (in MPEG or Quicktime format) that describes how the demonstration will proceed (as opposed to the technical merits of the research being demonstrated). This is the committee's primary method of evaluating your proposal. Please emphasize the elements that make your demonstration exciting and interesting.

(4) A detailed description of hardware and software requirements. Demonstrators are encouraged to be flexible in their requirements (possibly with different demos for different logistical situations). Please state what you can bring yourself and what you absolutely must have provided. Generally speaking, we can provide computer monitors and peripherals such as TVs and VCRs, as well as a network connection. Each demonstration will be assigned a table-top in the exhibition area.

Demo proposals must be received in their entirety, including any supporting materials, by Tuesday, April 4, 2006. Authors will be notified of acceptance by April 18, 2006.

We especially hope that authors of papers accepted for presentation at the conference technical program will be able to demonstrate their research in the AAAI Intelligent Systems Demonstration Program. To present a system demonstration, however, the authors must still submit a proposal conforming to the above requirements by the Demonstration program deadline. Submitters who wish to demonstrate intelligent mechanical systems that interact with the real world (aka "robots") should direct their efforts toward the Robot Exhibition.

Inquiries

If you have any questions or comments about the AAAI Intelligent Systems Demonstration program, we encourage you to address them to the program organizers, Rob Miller (rcm@mit.edu) and Biplav Srivastava (sbiplav@in.ibm.com).

Call for Participation

Fifteenth Annual AAAI Mobile Robot Competition & Exhibition

July 16–20 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence

WE INVITE YOU TO PARTICIPATE in the Fifteenth Annual AAAI Mobile Robot Competition and Exhibition, sponsored by the American Association for Artificial Intelligence. The Competition brings together teams from universities, colleges, and research laboratories to compete and to demonstrate cutting edge, state of the art research in robotics and artificial intelligence. The 2006 AAAI Mobile Robot Contest and Exhibition will be held in Boston, Massachusetts, as part of AAAI-06, from July 16-20, 2006. The program will include the Robot Challenge, the Open Interaction Task, the Scavenger Hunt, the Robot Exhibition, and the Mobile Robot Workshop. Registration will soon be open at http://palantir.swarthmore.edu/aaai06/registration.php and details of the events will soon be available on the aaai and swarthmore websites. You will be required to complete the AAAI registration form as well and submit it with your payment.

The Robot Challenge

The goal of the Robot Challenge is to work toward the development of an interactive social robot. Toward that end, the challenge requires that the robot participate in the AAAI conference. Aspects of conference participation goals include locating the conference registration desk, registering for the conference, perform volunteer duties, and present talk (and answer questions) at a prescribed time and location. Additionally, the robot should socially interact with other conference participants. Navigational technical challenges include dynamic crowded environments, natural landmark detection, direction understanding and following, and map reading. Social interaction challenges may include natural conversation regarding the robot and the conference and personalization of conversation with recognized individuals (by name, badge, or face). All of these things should be done in as close to the normal environment as possible.

Scavenger Hunt

Robots search the conference hotel area for a checklist of given objects such as people or information located at specific locations or at a specific time. This task will require robots to navigate and map a dynamic area with moving objects or people in order to acquire objects to satisfy the checklist.

We welcome a variety of teams to enter with one or more robots and/or human operators, but every entrant must demonstrate AI techniques during the competition. A key aspect of this event is having the robots interact with people in the environment during timed missions run throughout the course of the conference. More specific rules and guidelines will be posted shortly. We encourage urban search and rescue teams with AI components to consider joining this event.

Open Interaction Task

This event will take the place of the Robot Host event in past years and will probably involve interacting with conference attendees to achieve a particular task in an unstructured environment. The goal of the open interaction task event is to entertain people using robots and to provide AI and robotics researchers a refreshing venue for demonstrating AI techniques for interactive, entertainment, and social robots. Some of the topics include navigation, cognitive modeling, perception, emotional state modeling, natural language processing, and human-robot interaction.

Entrants may be any system that demonstrates some level of AI. In particular, we are looking for systems that are entertaining and strongly encourage teams to include human-robot interaction as part of their entry.

The Robot Exhibition

The mission of the robot exhibition is to demonstrate state of the art research in a less structured environment than the competition events. The exhibition gives researchers an opportunity to showcase current robotics and embodied-AI research that does not fit into the competition tasks. In addition to research, exhibits that demonstrate how robotics can be used to enhance education in AI and other related courses are highly encouraged.

The Mobile Robot Workshop

A robotics workshop will be held on the last day of the conference. Teams who receive travel support must attend and present at the workshop. All other participants are strongly encouraged to attend and present. A research paper will be required within one month after the end of the workshop, and will be published in a workshop proceedings by AAAI.

Fees and Funding

Limited travel funding will be available. If you wish to receive travel funding, the deadline for registering your intent to participate is May 15, 2006 (via the web registration). Each team will be required to pay a $250 participation fee that will help AAAI to defray the cost of the competition. This fee is in line with fees charged by other robotic events, and helps AAAI move towards a sustainable funding model for the event.

General Cochairs: Paul Rybski (prybski at cs.cmu edu) and Jeffrey Forbes (forbes at cs.duke.edu).

Call for Papers

Eighteenth Innovative Applications of Artificial Intelligence Conference

July 18–20 ▲ Boston, Massachusetts

Sponsored by the American Association for Artificial Intelligence & Collocated with AAAI-06

THE EIGHTEENTH ANNUAL CONFERENCE on Innovative Applications of Artificial Intelligence (IAAI-06) will focus on successful applications of AI technology. The conference will use technical papers, invited talks, and panel discussions to explore issues, methods, and lessons learned in the development and deployment of AI applications; and to promote an interchange of ideas between basic and applied AI. IAAI-06 will consider papers in two tracks: (1) deployed application case studies and (2) emerging applications, technology, and issues. Submissions should clearly identify which track they are intended for, as the two tracks are judged on different criteria.

All areas of AI technology are of interest for both tracks, including knowledge-based systems, genetic programming, data mining, medical and biological applications, vision, speech, natural language, robotics, constraint-based reasoning, software agents, interactive agents, personalization technologies, AI in Internet search engines, use of ontologies on the Internet, learning techniques in mobile or Internet interfaces, and voice interfaces on mobile devices.

Deployed Application Case Study Papers

Case-study papers must describe deployed applications with measurable benefits that include some aspect of AI technology. Applications are defined as deployed once they are in production use by their final end-users for sufficiently long that experience can be reported. The case study may evaluate either a stand-alone application or a component of a complex system.

Review criteria for deployed applications are: significance of the application, use of AI technology, innovation, evaluation, technical quality, and clarity. Original papers on the deployment issues in AI applications are welcome, even if other papers on the AI technology have been presented at or submitted to other conferences. Each of the accepted deployed applications papers will receive the IAAI Innovative Application award. Deployed application papers must address each of the following issues:

Task or Problem Description: Describe the task the application performs or the problem it solves. State the objectives of the application and explain why an AI solution was important. If other solutions were tried and failed outline these solutions and the reasons for their failure.

Application Description: Describe the application, providing key technical details about design and implementation. What are the system components, what are their functions, and how do they interact? What languages and tools are used in the application? How is knowledge represented? What is the hardware and software environment in which the system is deployed? Provide examples to illustrate how the system is used.

Uses of AI Technology: On what AI research results does the application depend? What key aspects of AI technology allowed the application to succeed? How were the techniques modified to fit the needs of the application? If applicable, describe how AI technology is integrated with other technology. If a commercial tool is used, explain the decision criteria used to select it. Describe any insights gained about the application of AI technology. What AI approaches or techniques were tried and did not work? Why not?

Application Use and Payoff: How long has this application been deployed? Explain how widely, how often, and by whom the application is being used. Also describe the application's payoff. What measurable benefits have resulted from its use? What additional benefits do you expect over time? What impacts has it had on the users' business processes?

Application Development and Deployment: Describe the development and deployment process. How long did they take? How many developers were involved? What were the costs? What were the difficulties, and how were they overcome? What are the lessons learned? What, if any, formal development methods were used?

Maintenance: Describe your experience with and plans for maintenance of the application. Who maintains the application? How often is update needed? Is domain knowledge expected to change over time? How does the design of the application facilitate update?

Emerging Application Papers

The goal of the emerging application track is to "bridge the gap" between basic AI research and deployed AI applications, by discussing efforts to apply AI tools, techniques, or methods to real world problems. Emerging applications are on aspects of AI applications that are not appropriate for deployed application case studies, or are not sufficiently deployed to be submitted as case studies. This track is distinguished from reports of scientific AI research appropriate for AAAI's National Conference in that the objective of the efforts reported here should be the engineering of AI applications.

Emerging application papers may include any aspects of the technology, engineering, or deployment of AI applications, including discussions of prototype applications; performance

evaluation of AI applications; ongoing efforts to develop large-scale or domain-specific knowledge bases or ontologies; development of domain or task focused tools, techniques, or methods; evaluations of AI tools, techniques or methods for domain suitability; unsuccessful attempts to apply particular tools, techniques or methods to specific domains (which shed insight on the applicability and limitations of the tool, technique or method); system architectures that work; scalability of techniques; integration of AI with other technologies; development methodologies; validation and verification; lessons learned; social and other technology transition issues.

Review Criteria: The following questions will appear on the review form for emerging technology, application, and issue papers. Authors are advised to bear these questions in mind while writing their papers. Reviewers will look for papers that meet at least some (although not necessarily all) of the criteria in each category.

Significance: How important is the problem being addressed? Is it a difficult or simple problem? Is it central or peripheral to a category of applications? Is the tool, technique, method, or issue presented generally applicable or domain specific? Does the tool, technique, method, or issue offer the potential for new or more powerful applications of AI?

AI Technology: Does the paper identify AI research needed for a particular application or class of applications? Does the paper characterize the needs of application domains for solutions of particular AI problems? Does the paper evaluate the applicability of an AI tool, technique, or method for an application domain? Does the paper describe AI technology that could enable new or more powerful AI applications?

Innovation: Does the tool, technique, or method advance the state-of-the-art or state-of-the-practice of AI technology? Does the tool, technique, or method address a new or previously reported problem? If it is a previously reported problem, does the tool, technique, or method solve it in a different, new, more effective, or more efficient way? Does the reported work integrate AI with other AI or non-AI technologies in a new way? Does the work provide a new perspective on an application domain? Does the work apply AI to a new domain?

Content: Does the paper motivate the need for the tool, technique, or method? Does the paper adequately describe the task it performs or the problem it solves? Does it provide technical details about the design and implementation of the tool, technique, or method? Does the paper clearly identify the AI research results on which the tool, technique, or method depends? Does it relate the tool, technique, or method to the needs of application domains? Does it provide insights about the use of AI technology in general or for a particular application domain? Does it describe the development process and costs? Does it discuss estimated or measured benefits? Does it detail the evaluation methodology and results?

Evaluation: Has the tool, technique, or method been tested on real data? Has it been evaluated by end users? Has it been incorporated into a deployed application? Has it been compared to other competing tools, techniques, or methods?

Technical Quality: Is the paper technically sound? Does it carefully evaluate the strengths and limitations of its contribution? Are the results described and evaluated? Are its claims backed up? Does it identify and describe relevant previous work?

Clarity: Is the paper clearly written? Is it organized logically? Are there sufficient figures and examples to illustrate the key points? Is the paper accessible to those outside the application domain? Is it accessible to those in other technical specialties?

Invited Talks and Panels

Nominations and suggestions for invited talks and panels are welcome and will be considered by the program committee. Invited talks and panels should address issues or themes in the development and deployment of AI applications. Invited speakers should be distinguished members of the research, business, or government communities who have special insights or experiences relating to directions of AI development. Invited speaker nominations should include full contact information, and a preliminary title and abstract of the talk. Panels should focus on the issues underlying AI applications, and should include panelists with a diversity of viewpoints or interests. Case studies can be used to illustrate the issues, but should not be the principal focus of the panels or invited talks. Panel proposals should include a description of the topic, contact information for the organizer, a moderator and list of participants.

Submission Format

Electronic submissions are required. Papers must be in trouble-free, high resolution PDF format and formatted for United States letter (8.5 x 11 inches) paper. Submissions are preferred in AAAI two-column format. Papers are expected to be 6–8 pages in this format. Papers in other formats will be reviewed, but should be of similar length.

Papers must have a title page, including the title of the paper; the track to which it is submitted; the names, affiliations, postal and e-mail addresses, and telephone and fax numbers of all authors; a designation of the application domain(s); identification of AI techniques employed or issues addressed; an indication of application status (e.g., feasibility analysis, research prototype, operational prototype, deployed application, etc.); and an abstract of fewer than 200 words.

Electronic Submissions: Authors should register on the IAAI-06 web-based paper submission software at www.aaai.org/Conferences/IAAI/2006/. A login and password, as well as detailed instructions about how to submit an electronic paper, will be sent to the author in a subsequent email message. Authors must then submit a formatted electronic version of their paper through this software no later than Tuesday, January 24, 2006. We cannot accept papers submitted by email or fax.

Submissions received after the deadlines or that do not meet the length or formatting requirements detailed above and at the IAAI-06 web site will not be accepted for review. Notification of receipt of the electronic paper will be mailed to the first author (or designated author) soon after receipt. If there are problems with the electronic submission, AAAI will contact the primary author by email. Papers, invited speaker nominations, and panel proposals will be reviewed by the program committee and notification of acceptance or rejection will be mailed to the contact author in early March.

Registration or clarification inquiries may be sent to AAAI at iaai06@aaai.org, 650-328-3123, or 650-321-4457 (fax).

PDFs of accepted papers in AAAI two column format will be due on April 4, 2006. Camera-ready papers will be limited to six complimentary pages and two optional additional pages at $275 each. Authors will be required to transfer copyright.

Bruce Porter, Conference Chair
University of Texas at Austin