

## The Twenty-Fourth AAAI Conference on Artificial Intelligence

## Atlanta, Georgia, 11-15 July 2010

Sponsored by the Association for the Advancement of Artificial Intelligence

AAAI-10 is the Twenty-Fourth AAAI Conference on Artificial Intelligence (AI). The purpose of this conference is to promote research in AI and scientific exchange among AI researchers, practitioners, scientists, and engineers in related disciplines. AAAI-10 will have multiple technical tracks, student abstracts, poster sessions, invited speakers, and exhibit programs, all selected according to the highest reviewing standards.

AAAI-10 welcomes submissions on mainstream AI topics as well as novel crosscutting work in related areas. Topics include but are not limited to the following:

Agents

Cognitive modeling and human interaction Commonsense reasoning

Constraint satisfaction and optimization Evolutionary computation

Game playing and interactive entertainment

Information integration and extraction Knowledge acquisition and ontologies Knowledge representation and reasoning

Machine learning and data mining

Machine learning and data mining

Model-based systems

Multiagent systems

Natural language processing

Planning and scheduling

Probabilistic reasoning

Robotics Search

Papers that extend the state of the art, and explore parts of the design space of AI that are not well explored are particularly encouraged. A full list of keywords is available at the end of this document.

#### **Special Tracks**

In addition to its main technical papers track, AAAI-10 will include seven special paper tracks: four for focused topics, one for ideas that have previously been presented elsewhere but not to a general AI audience, one for senior researchers to present broad perspectives and one for presenting new challenges to the AI community.

The Special Track on Artificial Intelligence and the Web (AIW) focuses on the use and extension of AI techniques, systems, and concepts for the World Wide Web.

The new Special Track on Artificial Intelligence and Bioinformatics (AIB) focuses on novel AI concepts, techniques, and systems to address current problems in bioinformatics and computational and systems biology.

The new *Special Track on Challenges in AI* seeks papers that issue technical challenges relating to artificial intelligence. These can be either a description of a specific technical problem, or of a broader class of problems worthy of attention.

The Special Track on Integrated Intelligence emphasizes research on evaluated approaches and techniques that synergistically combine abilities from distinct areas of AI to achieve intelligent behavior.

The Special Track Physically Grounded Artificial Intelligence (PGAI) welcomes papers in robotics, vision, activity recognition and other areas of artificial intelligence where computers interface to physical environments.

The AAAI Nectar (New Scientific and Technical Advances in Research) Papers track encourages cross-fertilization of ideas between specific areas of AI and the general AI community, and will consist of papers based on significant AI results presented at sister conferences in the last two years.

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.

The topics relevant to these special tracks, and their submission details, are described in detail in their respective calls for participation. 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. However, each special track will have its own submission process and review criteria, and will have its own program committee of reviewers with appropriate backgrounds.

#### **Author Registration**

Authors must register at the AAAI-10 webbased technical paper submission site, (aaai.confmaster.de/pages/login.php?Conf

=AAAI2010). The software will assign a password, which will enable the author to log on to submit an abstract and paper. In order to avoid a rush at the last minute, authors are encouraged to register as soon as possible after December 1, and well in advance of the January 18 abstract deadline.

## **Abstract and Paper Submission**

Electronic abstract and paper submission through the AAAI-10 paper submission site is required on or (preferably) before the deadline dates listed above. We cannot accept submissions by e-mail or fax.

Papers must be in trouble-free, high resolution PDF format, formatted for US Letter (8.5" x 11") paper, using Type 1 or TrueType fonts. Papers may be no longer than 6 pages including references (regular papers) or 2 pages (short papers), and formatted in AAAI two-column, camera-ready style (see the author instructions page). Please note that these formatting instructions are for final, accepted papers; no additional pages can be purchased at the review stage. In addition, the copyright slug may be omitted in the initial submission phase. Please also refer to the instructions on how to prepare your paper for blind review.

Authors will receive confirmation of receipt of their abstracts or papers, including an ID number, 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 January 28, 2010.

## **Short Papers**

Short papers should only be submitted by junior researchers (the principal author has not published before in a major conference). The same work may not be submitted as a short paper and a full paper to the main technical track or any of the special tracks of the conference.

### Timetable for Authors for Regular Papers and Short Papers (Posters)

- December 1, 2009 January 18, 2010: Authors register on the AAAI web site
- ⇒ January 18, 2010: Electronic abstracts due
- ⇔ January 21, 2010: Electronic papers due
- ⇔ March 10-12, 2010: Author feedback about initial reviews
- → March 26, 2010: Notification of acceptance or rejection
- April 13, 2010: Camera-ready copy due at AAAI office

### Submissions to Other Conferences or Journals

Papers submitted to this conference must not have been accepted for publication elsewhere or be under review for another AI conference. The guidelines of the AAAI policy on multiple submissions are fully detailed below and must be carefully followed.

#### **Review Process**

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.

Authors will have a limited opportunity to respond to initial reviews. This author's feedback may then be taken into account in the final reviews and recommendations. The program committee's reviews will make recommendations to the senior program committee, which in turn will make recommendations to the area chairs and program cochairs. The program cochairs will make all final decisions following full consultations during the process.

#### **Publication**

Accepted regular papers will be allocated six (6) pages in the conference proceedings; up to two (2) additional pages may be used for regular papers at a cost to the authors of \$275 per page. Accepted short papers will be allocated two (2) pages in the confer-

ence proceedings; up to one (1) additional page may be used for short papers at a cost to the authors of \$275. Final papers exceeding page limits 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.

Papers submitted to the Nectar or Senior Member tracks are allocated four (4) pages in the conference proceedings. Please refer to the individual calls for these programs for further details.

## **Questions and Suggestions**

Concerning author instructions and conference registration, write to aaai10@aaai.org. Concerning suggestions for the program and other inquiries, write to the program cochairs.

### **Program Cochairs**

Maria Fox (University of Strathclyde, UK) David Poole

(University of British Columbia, Canada)

A complete listing of conference track organizers, area chairs, and senior program committee members is available

## AAAI-10 Policy Concerning Submissions to Other Conferences or Journals

Papers submitted to this conference must not have been accepted for publication elsewhere or be under review for another AI conference. (The AAAI Nectar and Challenge paper submissions have specific guidelines that can be found in their respective call for papers.)

To encourage interdisciplinary contributions, AAAI will consider work that has been submitted or presented in part elsewhere, if it is unlikely to have been seen by more than a few members of the AAAI audience (however, see the exception for Challenge Track papers). As such, papers may not be dually submitted to other AI or AI subarea conferences. Papers under submission to a journal that contain overlap with AAAI papers will be considered as long as the author specifies the dual submission and certifies that the journal submission contains significant material that is not included in the AAAI submission. Papers that have been published in full in another conference or journal will not be accepted for review. Novelty is an important criterion in the selection of papers.

AAAI requires the following:

Authors must specify the conferences and journals to which the paper has been dually submitted.

Authors must withdraw papers under review or accepted for other AI conference venues if the paper is submitted to AAAI.

Papers not dually submitted should so indicate on the title page.

For questions as to whether a given meeting is considered under the dual submission policy, or for clarifications of this policy, submitters should contact the Program Chairs.

## Keywords

# Constraints, Satisfiability, and Search

Constraint Learning and Acquisition
Constraint Optimization

Constraint Satisfaction (General/other)
Distributed Search/CSP/Opti-

mization Search, SAT, CSP: Evaluation

and Analysis Global Constraints Heuristic Search

Metareasoning and Metaheuristics

heuristics Satisfiability (General/Other) SAT and CSP: Modeling/For-

mulations
Search (General/Other):
Search in Games

SAT and CSP: Solvers and Tools

# Knowledge-Based Information Systems

Information Retrieval Knowledge Acquisition Knowledge Engineering Knowledge-based Systems

(General/Other)
Linked Data Applications
Ontologies
Recommender Systems
Social Networks
Web Technologies — See AIW
Special Track

# Knowledge Representation and Reasoning:

Action, Change, and Causality Automated Reasoning and Theorem Proving Belief Change

Common-Sense Reasoning Computational Complexity of Reasoning

Description Logics
Diagnosis and Abductive Reasoning

Geometric, Spatial, and Temporal Reasoning Knowledge Representation

Languages
Knowledge Representation
(General/Other)
Logic Programming

Nonmonotonic Reasoning Preferences Qualitative Reasoning Reasoning with Beliefs

Argumentation

Machine Learning

Kernel Methods

Active Learning
Bayesian Learning
Case-Based Reasoning
Classification
Data Mining
Ensemble Methods
Evolutionary Computation
Feature Selection/Construc-

Learning Graphical Models

Learning Preferences/Rankings Learning Theory

Machine Learning (General/other) Neural Networks Reinforcement Learning

Relational Learning Time-Series/Data Streams Transfer, Adaptation, Multitask Learning

Semisupervised Learning Structured Learning Unsupervised Learning

### Multiagent Systems

Agent/AI Theories and Architectures

Agent-based Simulation and Emergent Behavior Agent Communication

Auctions and Market-Based Systems Coordination and Collabora-

tion

Distributed Problem Solving

E-Commerce
Game Theory
Multiagent Learning
Multiagent Planning
Multiagent Systems (General/other)

Negotiation and Contract-Based Systems Social Choice

Multidisciplinary Topics AI and Natural Sciences Al and Social Sciences
Art and Music
Cognitive Modeling
Computer-Aided Education
Computer Games
General Game Playing
Human-Computer Interaction
Intelligent User Interfaces
Interactive Entertainment
Philosophical and Ethical Issues

Security and Privacy Sustainability and AI Other Multidisciplinary Topics

#### Natural-Language Processing Discourse and Dialogue

Discourse and Dialogue Information Extraction Natural Language Semantics Natural Language Summarization

Natural Language Processing (General/Other) Question Answering Text Classification

#### Reasoning About Plans, Processes and Actions

Activity and Plan Recognition Learning Models for Planning and Diagnosis Markov Decisions Processes Mixed Discrete/Continuous

Planning Model-Based Reasoning POMDPs Plan Execution and Monitoring Planning Algorithms Planning under Uncertainty

(Other)
Planning (General/Other)
Scheduling
Temporal Planning

#### Reasoning Under Uncertainty

Bayesian Networks Decision/Utility Theory Graphical Models Probabilistic Inference Relational Probabilistic Mod-

Sequential Decision Making Uncertainty Representations Uncertainty in AI (General/Other)

#### Robotics

Behavior and Control Cognitive Robotics Human Robot Interaction Localization, Mapping, State Estimation

Motion and Path Planning Multi-Robot Systems Robotics (General/Other) — See PGAI Special Track

See PGAI Special Track Verification of Robotic Systems

Vision and Perception

# Unrelated to Any of the Above

Artificial Intelligence