AAAI-02
Edmonton/Alberta
IAAI-02

Eighteenth National Conference on Artificial Intelligence
Workshop Program

July 28–29, 2002

EDMONTON, ALBERTA, CANADA

Sponsored by the

American Association for Artificial Intelligence
445 Burgess Drive, Menlo Park, CA 94025-3442
650-328-3123
650-321-4457 (fax)
workshops@aaai.org
http://www.aaai.org

AAAI is pleased to present the AAAI-02 Workshop Program. Workshops will be held Sunday and Monday, July 28-29, 2002 (unless otherwise noted) at the Shaw Convention Center in Edmonton, Alberta, Canada. Exact locations and dates for the workshops will be determined in early spring. The AAAI-02 workshop program includes nineteen workshops covering a wide range of topics in artificial intelligence. Workshops are one day unless noted otherwise in the individual description. Each workshop is limited to approximately 25 to 50 participants. Participation at these workshops is by invitation from the workshop organizers. Workshop registration information will be mailed directly to all invited participants. Workshops are included in the AAAI-02 technical registration. All workshop participants must preregister for the AAAI-02 technical conference. Workshop participants must indicate which workshop(s) they will be attending. Workshop working notes will be distributed onsite for participants only, and may be available after the conference as technical reports.

Submission Requirements

Submission requirements vary for each workshop, but the key deadlines are uniform for all. Submissions for all workshops are due to the organizers on March 15, 2002. Workshop organizers will notify submitters of acceptance by April 19, 2002. Camera-ready copy is due back to workshop organizers by May 3, 2002. Please mail your submissions directly to the chair of the individual workshop according to their directions. Do not mail submissions to AAAI. For further information about a workshop, please contact the chair of that workshop.

Formats

Many workshops request or require the AAAI two-column format. Links to styles, macros, and guidelines for this format are located at www.aaai.org/Publications/instructions.html

– *Berthe Choueiry*
choueiry@cse.unl.edu
AAAI Workshop Chair

Contents

Deadlines

- *March 15:* Submissions due
- *April 19:* Notification of acceptance
- *May 3:* Camera-ready copy due
- *July 28-29:* AAAI-02 Workshop Program

Agent-Based Systems for Information Retrieval

Our current climate is one of ever increasing amounts of information, and queries that require the intelligent integration of varied and potentially vast information sources. It is essential now more so than ever that we extend our abilities to search and exploit information both more accurately and more efficiently, and make connections readily between varied information sources. This goal is best achieved by leveraging the efforts of both the IR and agents communities.

This workshop will focus on the application of agent-based and multi-agent system technology to the problems of storing and searching large collections of documents. This includes traditional information retrieval questions such as retrieval effectiveness and system performance. We also address agent-based approaches to distributed IR, where the agents (and documents) are scattered, for example, among the nodes of a network. Agent-based systems are also appropriate to the task of searching or even integrating heterogeneous sources of information, and the fusion of results.

Topics

We encourage submissions in the following areas:

- Query formulation
- Processing of standing/ad hoc queries
- Use of ontologies in corpus selection
- Metadata
- Specialized protocols for distributed IR
- Performance modeling and evaluation

Participation will be limited to fifty individuals, by invitation.

Submissions

Those interested in participating should submit (to cost@acm.org) either: (1) Brief statement of interest (one page), or (2) Complete paper (no more than eight pages) including keywords and authors' complete addresses.

Papers and statements of interest should be in PostScript, PDF, or HTML format. Direct all inquiries by email to the chair, R. Scott Cost.

Committee

R. Scott Cost (chair), University of Maryland Baltimore County (cost@acm.org); Charles Nicholas, University of Maryland Baltimore County (nicholas@umbc.edu); Ian Soboroff, National Institute of Standards and Technology (ian.soboroff@nist.gov)

Website

www.csee.umbc.edu/conferences/aaai02ws/
Refer questions or problems with this web site to Charles Nicholas.

Agent-Based Technologies for B2B Electronic Commerce Technologies

With the increasing acceptance of the Internet, various technologies have been used to manage and automate online business. Currently, there is a large body of work supporting the use of intelligent software agents in electronic commerce. To date, the majority of this work has focused on agent-supported collaborations between online businesses and consumers (B2C). Currently, an increasing amount of agent research has been directed toward B2B domains. The large majority of this work supports common artificial intelligence approaches to automated negotiation and pricing, auctioning and transactional reasoning, business-oriented ontological representation and learning, and the control of workflow or supply chain management among online businesses. In drawing a distinct line between agent-oriented B2C commerce and agent-oriented B2B commerce, we invite manuscripts from researchers and industry labs that are specifically working on the underlying concepts, architectures, representations, and implementations for agent-oriented B2B commerce.

Topics

- Modeling, designing, and developing software agents-oriented workflow
- Agent-based coordination and communication languages for electronic markets
- Software agent architectures for B2B or B2C coordination and interoperation
- Agents for the representation and collaboration of business integration knowledge

Format

This three-part workshop will be comprised of papers on agent-oriented concepts and methodologies for B2B interoperability, papers on the underlying B2B Agent applications and architectures, and panel sessions that showcase agent research that supports the diverse underlying areas.

Attendance

Participation will mostly be limited to submitted papers. Researchers who would like to participate in the panel sessions should contact the workshop chair. We anticipate admitting 40 persons to the workshop.

Submissions

Submissions should focus on the AI and agent-oriented aspects that automate B2B interoperability over the Internet. Submissions must be formatted in accordance with the AAAI guidelines and submitted electronically (PDF is preferred) to the workshop chair. Papers should not exceed 10 pages, and all submissions should be made in accordance to the AAAI workshops timetable.

M. Brian Blake, Chair
Georgetown University and The MITRE Corporation
Department of Computer Science
Georgetown University
234 Reiss Science Building
Washington DC 20057
Voice: 202-687-3084
Fax: 202-687-1835
blakeb@cs.georgetown.edu

Committee

Fahim Akhter, Zayed University (fahim_al_akhter@zu.ac.ae); Christoph Bussler, Oracle Corporation (chris.bussler@oracle.com); Monique Calisti, Swiss Federal Institute of Technology (Monique.Calisti@epfl.ch); Maria Gini, University of Minnesota (gini@cs.umn.edu); Hassan Gomaa, George Mason University (hgomaa@gmu.edu); Maamar, Zayed University (Zakaria.Maamar@zu.ac.ae); Mark Maloof, Georgetown University (maloof@cs.georgetown.edu); Mark Matthews, The MITRE Corporation (mmatthew@mitre.org); Bruce McLaren, OpenWebs Company (BMcLaren@openwebs.com); Pam Rostal, Talent Software Services (pmrostal@mediaone.net)

Website

www.cs.georgetown.edu/~blakeb/AAAI2002_AgentB2B.html

Artificial Intelligence for Intelligent Business

The primary objective of this workshop is to investigate how AI is and can be integrated into business settings, with the primary emphasis on business to business applications and concerns.

Topics

Use of artificial intelligence for business applications, including but not limited to:

- Agents and the semantic web
- E-business applications, e.g., automated contracting and negotiation
- Competitive analysis
- Data mining and visualization; machine learning and knowledge discovery
- Dynamic pricing—recommendation and reputation systems
- Representation, communication, and execution of business policies, rules, and processes
- Xml and derivatives
- Web services

Format

It is anticipated that there will be research papers, demonstrations, a panel and an invited speaker.

Attendance

Attendance will be limited to 50 people, based on the papers submitted.

Submissions

Submit papers (not more than 12 pages, font size 12 or larger), extended abstracts (at least three pages) as an email attachment to oleary@usc.edu. If just interested in attending, send a request to oleary@usc.edu. Submit to:

Daniel E. O'Leary
University of Southern California
3660 Trousdale Parkway
Los Angeles, CA 90089-0441
Voice: 213-740-4856
Fax: 213-747-2815
oleary@usc.edu

Committee

Benjamin Grosof (Cochair), Sloan School of Management, Massachusetts Institute of Technology, Boston, Massachusetts (bgrosof@MIT.EDU); Alun Preece (Cochair), University of Aberdeen, Aberdeen, Scotland (apreece@csd.abdn.ac.uk).

Website

www.usc.edu/schools/business/atisp/AI/AAAI-Workshop-2002/

Automation as Caregiver: The Role of Intelligent Technology in Elder Care

As the cognitive and physical health of elders begins to deteriorate, they require increasing assistance from caregivers. The strain on families and individuals is enormous. In many cases people are turning to technological solutions to aid in care giving for this elderly population. While much of this technology continues to occupy traditional assistive roles such as walking, door opening and communication, increasingly advanced technological solutions are now being proposed and developed to aid in monitoring, cognitive support and direct automation of tasks. In addition, failure to consider the humans' needs, desires, capabilities and limitations will lead to unsatisfactory technological solutions at best, and disasters at worst.

By bringing together researchers from robotics, artificial intelligence and human factors, this workshop will help foster a coordinated solution for automation as caregiver for the elderly. We are interested in submissions covering both integrated solutions as well as particular components.

Topics

Assistive technology: Devices that aid with mobility, medication management, and household tasks.

Cognitive aids: Technology that supports declining cognitive skills, including reminders, task instruction, and methods to reduce cognitive effort.

Passive monitoring: Devices and reasoning systems that recognize the elder's activity and learn to detect abnormal situations.

Decision-making: Reasoning systems that respond to situations and the elder's needs by interacting with devices in the home, interacting with the elder, or contacting caregivers.

Human factors: Interfaces that meet elder's needs and capabilities—motor, sensory and cognitive.

Adaptation: Techniques to recognize the elder's changing capabilities.

Specific technologies that support one or more of these areas include robotics, computer vision, speech understanding, knowledge representation, planning, machine learning, situation assessment, task tracking, agents, software architectures and human computer/robot interfaces.

Format

The technical program will include presentations on contributed papers, panel discussions, and an invited talk by a geriatric specialist, describing the reasons elders move out of their homes, and potential roles for automation. Attendance is limited to 50 participants. Nonpresenters interested in attending should submit a one-page statement of interest to the organizers.

Submissions

Submissions should be no more than 5 pages and formatted according to the AAAI style files. Send papers via email to Karen Haigh (PDF or PostScript).

Committee

Karen Haigh, chair (khaigh@htc.honeywell.com); Holly Yanco (holly@cs.uml. edu); Barry Brumitt (barry@microsoft.com); Michael Coen (mhcoen@ai.mit.edu); Victor Lesser (lesser@cs.umass.edu)

Website

www.cs.cmu.edu/~khaigh/AAAI02.html

Autonomy, Delegation, and Control: From Inter-Agent to Groups

Following successful recent workshops on social notions of multiagency, we are interested in scaling issues of social networks on inter-group interactions. Theories are needed to synthesize the inter-agent interaction into unified models. Derived and implied attitudes are beyond the immediate and direct inter-agent attitudes but play a big role in balance of attitudes among agents in a group. We call upon several research camps with differing perspectives on related issues including the following: human-robot interaction, human-computer interaction, agent-agent interaction, and organizational theory. We continue to strive for commonalities across research camps.

Attendance

We are seeking papers that clearly exemplify central notions in a research camp or try to synthesize unified views. To encourage interaction and a broad exchange of ideas, the workshop will be limited to 40 participants and ample time will be allotted for general discussion.

Submissions

Authors should submit an extended abstract (3-4 pages) or a full paper of up to 8 pages. Manuscripts are expected to be in English (with American spelling preferred). Our first preference is HTML files. Otherwise, we prefer the following formats: MS word, PDF, PostScript. If we receive an adequate number of quality papers, we will seek to publish them as a collection.

Correspondence

Henry Hexmoor
Department of Computer Science & Computer Engineering
University of Arkansas
Engineering Hall, Room 328
Fayetteville, AR 72701
Email: hexmoor@mail.uark.edu
Voice (office): (501) 575 2420
Voice (home): (501) 587 1786
Voice (department): (501) 575 6036
Fax: (501) 575 5339.

Committee

Henry Hexmoor University of Arkansas (cochair), Rino Falcone National Research Council, (Italy) (cochair), Suzanne Barber (USA), Jeffrey Bradshaw (USA), Sviatoslav B. Braynov (USA), Cristiano Castelfranchi (Italy), Scott A. DeLoach (USA), Maria Fasli (UK), Fiorella de Rosis (Italy), George Ferguson (USA), Vladimir Gordestaky (Russia), Jean-Michel Hoc (France), Barbara Dunin-Keplicz (Poland), Michael Luck (UK), Gregory O'Hare (Ireland), Nancy Reed (Sweden), Sandip Sen (USA), Munindar Singh (USA), Liz Sonenberg (Australia)

Website

csce.uark.edu/~hexmoor/AAAI-02/AAAI-02-cfp.htm

Coalition Formation in Dynamic Multiagent Environments

Dynamic real-world environments pose difficult challenges for rational agents who might otherwise be capable of forming optimal coalitions for problem solving under conditions of perfect information and unlimited computational resources. In dynamic environments where events are changing rapidly and information cannot be relayed among the agents frequently enough or centralized updates and polling are expensive, agents may be forced to form suboptimal coalitions. In such instances, agents need to balance coalition quality with the quality of the available information (which will typically be both incomplete and uncertain) as well as the availability of computational resources. This may involve characterizations of domains in terms of appropriate coalition formation strategies or the development of approaches for learning better formation strategies over time. More importantly, while agents interact over the impact of such issues as task allocation and information exchange on coalition formation, agents will at the same time need to remain collectively responsive to their environments. This requires that agents be "time aware" and conduct real-time/soft real time deliberation about coalition formation while maintaining domain activities.

Topics

- Real-time dynamic coalition formation
- Coalition formation under uncertainty and suboptimality
- Negotiation-based coalition formation
- Task allocation (or job matching) strategies among agents of a coalition
- Coalition formation for resource allocation
- Anytime/adaptive coalition formation strategies
- Learning of better coalition formation strategies
- Multiagent coordination through coalition formation
- Cross-coalition interaction and hierarchical organizations

Format

The workshop will consist of two general sessions: morning and afternoon. Each session will include presentations (about twenty minutes each) and a one-hour panel discussion. The morning discussion will be on the issues of coalition formation when information is incomplete or uncertain, while the evening discussion will be on soft real-time, time sensitive, or resource bounded coalition formation.

Submission

Potential participants should submit either an extended abstract (up to 3 pages) or an original technical paper (up to 10 pages) including keywords and authors' complete addresses. Submit electronically (in PostScript or PDF format) to lksoh@cse.unl.edu.

Chair

Leen-Kiat Soh
Computer Science and Engineering
University of Nebraska
115 Ferguson Hall
Lincoln, NE 68588-0115.

Committee

Leen-Kiat Soh (Chair), University of Nebraska (lksoh@cse.unl.edu); Charlie Ortiz (Cochair), SRI International (ortiz@ai.sri.com); Costas Tsatsoulis, University of Kansas (tsatsoul@ittc.ku.edu); Matthias Klusch, German AI Research Center (klusch@dfki.de); Tom Wagner, Honeywell Laboratories (wagner_tom@htc.honeywell.com); Kate Larson, Carnegie Mellon University (klarson@cs.cmu.edu).

Website

www.cse.unl.edu/~lksoh/coalition.html

Cognitive Robotics

Research in robotics has traditionally emphasized low-level sensing and control tasks including sensory processing, path planning, and manipulator design and control. In contrast, research in cognitive robotics is concerned with endowing robots and software agents with higher level cognitive functions that enable them to reason, act and perceive in changing, incompletely known, and unpredictable environments. Such robots must, for example, be able to reason about goals, actions, when to perceive and what to look for, the cognitive states of other agents, time, collaborative task execution, etc. In short, cognitive robotics is concerned with integrating reasoning, perception and action within a uniform theoretical and implementation framework.

This workshop aims to bring together researchers involved in all aspects of the theory and implementation of cognitive robots, to discuss current work and future directions. While all aspects of cognitive robotics are of interest to the workshop, we especially welcome discussions and demonstrations of implemented systems. CogRob2002 follows the very successful AAAI 1998 Fall Symposium on Cognitive Robotics held in Orlando and the Second International Cognitive Robotics Workshop, held in conjunction with ECAI-2000.

Submissions

Potential participants are invited to submit either a technical paper (extended abstract), an overview paper on their ongoing research, a position paper, or a description of an implemented system that the authors are willing to demonstrate at the workshop. Papers should be no longer than 7 pages with a font size of at least 10 points. Others wishing to attend should submit a 1-2 page description of their work or interest in this area (including a short list of related publications). This may include specific questions and issues that they feel should be addressed. Proposals of panels on specific issues are also welcome.

Papers submitted to this workshop are not considered to be archival publications. Working notes will be distributed at the workshop, but no archival publication will be produced. Hence, authors may submit papers that are under review elsewhere, or that will be published elsewhere, including KR2002 and AAAI-2002. Electronic submissions are preferred and should be sent to cogrob02@ksl.stanford.edu. Papers must be in PostScript.

Contacts

For mailing information and other administrative details, including submission of papers, reviews and final copies, please contact cogrob02@ksl.stanford.edu.

For technical information about the workshop, please contact Chitta Baral (chitta@asu.edu) or Sheila McIlraith (sam@ksl.stanford.edu). For general information about the Workshop venue, hotels, and travel information, please see the AAAI-02 Web Site.

Website

www.ksl.stanford.edu/cogrob2002/.

Game Theoretic and Decision Theoretic Agents

Over the last few years, game and decision theories have proved to be powerful tools with which to design autonomous agents, and to understand interactions in systems composed of many such agents. Decision theory has been adopted as a paradigm for designing agents that can handle the uncertainty of any moderately complex environment, and act rationally to achieve their goals. Game theory, largely assuming the existence of self-interested agents, has been employed in the design of mechanisms and protocols for interaction, coordination, communication, negotiation, coalition formation, fair voting techniques, market-based resource management systems, and industrial-scale information economies.

As a result, there seems to be much to gain from bringing together researchers interested in game theory and decision theory to present recent work on the application of these techniques in the construction of agent systems, and to discuss the cross-over between the fields. This has been bourne out by the three previous GTDT workshops. The fourth GTDT workshop will continue to provide a forum for the presentation and discussion of results in game theory and decision theory applied to agent-based computing.

Submissions

Please submit the paper electronically (at most 15 pages standard LaTeX article style) in PostScript (preferred) or in PDF, to Piotr Gmytrasiewicz at piotr@cs.uic. edu.

Topics

We solicit papers dealing with, but not limited to, the following areas:

- Descriptions of agent systems employing game theory or decision theory
- Empirical evaluations of agent systems employing game theory or decision theory
- Theoretical developments in game theory or decision theory applied to agent systems
- Position statements about the use of game theory or decision theory in agent systems

Descriptions of deployed systems are welcome. We are also interested in the use of non-standard variants of decision theory (including qualitative and logical approaches), and in approaches that combine decision and game theories.

Chairs

Piotr Gmytrasiewicz, CS Department, University of Illinois at Chicago, Chicago, IL 60607-7053. Email: piotr@cs.uic.edu

Simon Parsons, Department of Computer Science, Chadwick Building, University of Liverpool, Liverpool L69 7ZF, United Kingdom. S.D.Parsons@elec.qmw.ac.uk

Committee

(List is tentative) Cristina Biccheri, Carnegie Mellon University (cb36@andrew.cmu. edu); Craig Boutilier, University of Toronto (cebly@cs.toronto.edu); Jon Doyle, Massachusetts Institute of Technology (doyle@ mit.edu); Amy Greenwald, Brown University (amygreen@cs.brown. edu); Jeff Kephart, IBM Institute for Advanced Research (kephart@watson.ibm. com); Sarit Kraus, Bar-Ilan University (sarit@macs. biu.ac.il); Martha Pollack, University of Michigan (pollackm@eecs. umich.edu); Richard E. Stearns, University of Albany (res@cs.albany.edu); Wynn Stirling, Brigham Young University, (wynn@ee. byu.edu); Gerald Tesauro, IBM Watson Research Center, (tesauro@watson. ibm.com); Leon van der Torre, Vrije Universiteit Amsterdam (torre@cs.vu.nl); Russell Vane, Litton PRC (russ@vaneteam. com); Michael Wooldridge, University of Liverpool (M.J.Wooldridge@ csc.liv.ac.uk); Shlomo Zilberstein, University of Massachusetts (shlomo@cs.umass.edu).

Website

www.cs.uic.edu/~piotr/aaai02-gtdt.html

Intelligent Service Integration

The evolution of the world wide web from a repository of data (in static web pages) to a source of varied distributed services creates exciting opportunities for offering integrated, distributed services over the web, for applications such as comparison shopping, trip planning, supply chain management, complex product configuration, and remote medical record query.

However, such opportunities come with their own challenges. Services from different providers need to be integrated into a single composite service that appears as a seamless whole. The syntactic problems of such integration are being addressed by the advent of XML-based standards for information interchange, and web-based exchange protocols like SOAP. However, the promise of service integration will not be delivered, unless services can be integrated semantically as well.

Topics

We encourage submissions that treat topics anywhere in the spectrum of solutions to semantic service integration problems, ranging from standards-based (e.g., industry-specific XML standards) to just-in-time (e.g., wrappers and mediator architectures).

In this workshop, we plan to bring together researchers working on various aspects of this problem, including architectures for semantic integration, protocols and representation languages for information interchange for service integration, semantic matching systems, and management of integrated services.

Submissions

The workshop will be a mix of presentations followed by discussions and a panel session. The final topic and constitution of the panel will be decided from the submissions, but will probably cover a range of approaches to intelligent service integration. We envision four types of submissions: (1) position papers providing unique insight into the challenges of intelligent service integration, (2) application papers describing systems that accomplish run-time semantic integration, (3) descriptions of architectures, representation languages or protocols for achieving service integration, and (4) other systems for solving specific problems related to service integration (e.g., semantic matching, translation, wrapper generation, etc.). Electronic submission (PostScript or PDF) is preferred. Submitters who wish to be considered as panelists, should indicate this in their workshop submission.

Committee

The workshop cochairs are Dean Allemang, Boston University (allemang@acm.org) and Eleni Stroulia, University of Alberta (stroulia@cs.ualberta.ca). Also serving on the workshop committee is John Mylopoulos, University of Toronto (jm@cs.toronto.edu).

Website

www.cs.bu.edu/fac/allemang/AAAIWISI/

Intelligent Situation-Aware Media and Presentations

The design of intelligent situation-aware media and presentations becomes increasingly important for software designers and also for the design of consumer electronic devices. This process is due to the fact that software becomes more complex and systems become integrated into a ubiquitous information infrastructure. The paradigm of "one device—one functionality" is over and today we can access mutually any service through any device. A TV set for instance is nowadays a control center for various applications, e.g., video programming, e-commerce, web-browsing and more. A mobile PDA can be used as a telephone, tourist guide, remote control, and calendar or web-access device.

In these scenarios, new intelligent methods are necessary, that decouple the application logic from the actual device and that adapt the media and presentation to the actual situation, i.e., the user with her needs and preferences, the devices that are available, and the context.

Topics

In the ISAMP workshop we intend to bring together researchers working on various aspects of the problems described above. The scope of interest includes but is not limited to:

- Adaptive media for single modalities (vision, audio, etc.)
- Context-aware presentation management
- Device-adaptive dialog systems
- Seamless presentation management in ubiquitous computing
- User-adaptive media
- Situation-adapted user interfaces
- Adaptation to limited technical resource and cognitive resources

Submissions

We encourage submissions from researchers and practitioners in academia, industry, government, and consulting. Students, researchers and practitioners are invited to submit full papers (max 8 pages) or suggestions for demonstrations (max 4 pages) describing original, novel, and inspirational work. Submissions should be sent by email to Rainer Malaka (malaka@eml.org).

Chairs

Rainer Malaka (European Media Lab, Germany)

Antonio Krüger (Saarland University, Germany)

Committee

Elisabeth André, University of Augsburg; Jörg Baus, Saarland University; Niels Ole Bernsen, University of Southern Denmark; Christian Elting, European Media Lab; Kristiina Jokinen, ATR Interpreting Telecommunications Research Laboratories; Paul McKevitt, University of Ulster; Toyoaki Nishida, University of Tokyo; Deb Roy, MIT Media Lab; Fabio Pianesi, Insitute for the Scientific and Technological Research; Candy Sidner, Mitsubishi Electric Research Laboratories; Michelle Zhou, IBM Research.

Website

www.eml.org/isamp2002

Meaning Negotiation

The development of distributed applications over large networks of computers raises the issue of semantic interoperability between autonomously developed sources of information or service providers. The problem seems especially critical in areas like knowledge management, semantic web, web services.

A common strategy for dealing with semantic interoperability is to create large, shared conceptual schemas (e.g. ontology, web directories, taxonomies) that are used as a common reference for concepts belonging to heterogeneous schemas. However, there are practical and theoretical reasons why this can't work on a very large scale. This workshop aims to explore an alternative approach, based on the intuition that humans overcome semantic heterogeneity through *meaning negotiation* (MN)—an activity that aims at finding an agreement on the meaning of the expressions that are used in linguistic communication. By definition, MN involves semantically autonomous entities, namely entities that cannot assess a semantic problem by "looking into each other's head;" MN does not exclude that semantically autonomous entities may share objects or artifacts in some environment, but that is not like taking for granted that this is sufficient to guarantee successful communication.

The problem of meaning negotiation can be addressed from many different perspectives, using different conceptual and technological tools, and with different motivations in mind. We welcome contributions from a variety of fields, such as knowledge representation, multi-agent systems, databases, natural language processing, machine learning, game theory, epistemology, philosophy of language, cognitive science, psychology, sociology, organization and management sciences.

Topics

Topics of interest include (but are not limited to):

- Formal, computational, game-theoretic, cognitive, epistemological, social models of MN
- Multiagent communication protocols for supporting MN
- Ontology, database and XML schemas integration/mapping
- Natural language processing techniques for MN
- Applications of game theory to MN
- Coordination/cooperation through MN
- Innovative scenarios for MN (such as semantic web, knowledge management, e-business, marketplaces, personal digital assistants, mobile applications)
- Business cases

Format

Paper presentations and discussion/brainstorming. Presentations will be limited to 15 papers.

Submissions

Authors are required to submit an extended abstract (two, maximum three pages, formatted using the sample macros available on the AAAI web page). The use of LaTeX is strongly encouraged. Accepted formats for electronic submissions are PostScript and PDF. Electronic submissions should be sent to the workshop chair (Paolo Bouquet), Department of Computer and Management Sciences, University of Trento, Via Inama, 5 – I-38100 Trento (Italy). E-mail: bouquet@cs.unitn.it. *Voice:* 39-0461-882135 *Fax:* 39-0461-882124

Committee

Frank van Harmelen, Vrije Universiteit; Fausto Giunchiglia, University of Trento; Deborah McGuinness, Stanford University; John Mylopoulos, University of Toronto; Michael P. Papazoglou, Tilburg University; Massimo Warglien, University of Venice

Website

boogie.cs.unitn.it/AAAI-02-MN/

Multi-Agent Modeling and Simulation of Economic Systems

The workshop focuses on multi-agent modeling framework and simulation method of economic systems. By economic system, we mean a weakly connected multi-agent system where chain of exchange exists, i.e., goods, currency, credit and information is continuously exchanged in the system.

The target system under analysis is not limited only to financial market or whole economy system, but also to systems where the chain of exchange exists, such as shopping system consisting of customers and shop keepers, market mechanism for environment protection (recycling, greenhouse gas emissions), human or vehicle flow where exchange of physical status and information occurs, and so on.

The primary purpose of the workshop is to reveal the mechanisms of phenomena emerging from the chain of exchange. For the purpose, we think that computational methods for modeling and simulating economic systems as multi-agent systems are indispensable. More precisely, we intend to compare the computational methods for the following research goals:

- Analysis of economic multi-agent systems and to measure their complexity.
- Analysis of the agent strategy under dynamically changing environment.
- Relation between the complexity of whole system and the complexity of agent strategy.
- Common modeling and simulation platform.

The technical issues to be discussed include, but are not limited to:

- Formal multi-agent modeling of economic systems, approached by agent architecture logic, game theory, cellular automata, or mathematics
- Multi-agent simulation of economic systems
- Mathematical analysis of simulation results
- Statistical analysis of economic multi-agent systems, e.g., econophysics
- Analysis method of relation between whole system and agents
- Formal modeling of agent interaction in economic context
- Designing and analysis of economic agents
- Computational tools and platforms of multi-agent economics and economic agents

Format

We plan to have the following sessions: Invited talks from both artificial intelligence and economics side by Michael Wellman (University of Michigan) and John Duffy (University of Pittsburgh); a panel session; and regular oral presentations. Invitation is determined by reviewers' comments and the interest in the research topics. Submissions from both AI and economics are welcome.

Submissions

All submissions should be sent to the secretariat at mamses02-sec@carc.aist.go.jp in PDF (preferred) or PostScript.

Committee

Chair: Koichi Kurumatani, Cyber Assist Research Center (CARC), National Institute of Advanced Industrial Science and Technology (AIST), Aomi 2-41-6, Koto, Tokyo, 135-0064 Japan. *Voice:* 81-3-3599-8223 *Fax:* 81-3-5530-2067. *Email:* kurumatani@w-econ.org

Shu-Heng Chen, Department of Economics, National Chengchi University (chchen@nccu.edu.tw); Azuma Ohuchi, Graduate School of Engineering, Hokkaido University (ohuchi@complex.eng.hokudai.ac.jp)

Website

www.carc.aist.go.jp/mamses02

Ontologies and the Semantic Web

This workshop will address ontologies for the semantic web. The notion of the semantic web as promoted by Tim Berners-Lee and by Jim Hendler as the focus of a major DARPA-funded research effort, is to transform the current world wide web so that the information and services are understandable and useable by computers as well as humans. The semantic web will create an environment where software agents can readily perform sophisticated tasks and help humans find, understand, integrate, and use information. the key distinguishing feature of the semantic web will be ontologies that will enable software agents to find the meaning of the information on web pages by following hyperlinks to definitions of key terms and rules for reasoning about them logically. The aim of this workshop will be to make progress on addressing what ontology languages, tools, methodologies, and content are needed to support the semantic web.

Topics

Papers are solicited that discuss issues related to the content of ontologies with respect to either presenting particular ontological content that is believed to be of general interest, or discussing the more general issue of how a body of formal ontology content can be extended or employed in some application. Papers may present ontologies and discuss their value or discuss issues in the standardization of ontological content.

- How can the quality of ontologies be evaluated?

Papers are particularly encouraged that provide methodologies and test cases.

- How can ontologies developed for the semantic web be shared and combined?

Papers are particularly encouraged that contain specific use scenarios in which sharing, merging, translating, etc. are critical.

- Use cases for ontological content on the web.

A great effort is going into languages for defining, and tools for manipulating, ontologies on the web. Papers are encouraged that describe either implemented applications that make use of web ontologies, or vision papers that describe how ontological content will change the web.

Format

Subject to a sufficient response to our call for participation, we are planning on a two-day workshop. The agenda will consist of position statements by the program committee, invited talks, paper presentations, and panel-led discussions.

Attendance will be limited to authors of accepted papers and invited presenters. Other attendees will be accepted only if space permits. There will be a total of 25-65 participants.

Submissions

Papers of 4-10 pages will be accepted by email in PDF (preferred), PostScript or RTF formats to (apease@ks.teknowledge.com). Papers must conform to AAAI format.

Committee

Adam Pease (chair), Teknowledge Inc. 1810 Embarcadero Rd, Palo Alto, CA 94303, Telephone: 650 424 0500 x571 fax 650 493 2645 apease@ks.teknowledge. com

Richard Fikes, Stanford University (fikes@ksl.stanford.edu), James Hendler, University of Maryland (hendler@cs.umd. edu).

Website

projects.teknowledge.com/AAAI-2002/

Planning with and for Multiagent Systems

Multiagent systems (MAS) have become an important subfield of AI, and several classical AI topics are now broadly studied in their MAS (i.e. distributed) variants. Multiagent planning (MAP) extends classical AI planning to domains where several agents can plan and act together. Application areas of MAP include multi-robot environments, cooperating Internet agents, logistics, manufacturing, military tasks, etc.

While related MAS disciplines (e.g. distributed constraint satisfaction) have benefited from standardized problem specifications and benchmarks, existing work on MAP is still very heterogeneous. Approaches differ for example in their emphasis on either the distributed planning or the distributed plan execution process, in the ways communication and perception are used, and in whether a global plan for all agents or a local plan for each agent is produced. Some of the underlying questions have been recently addressed in related fields, such as in extensions of classical planning to concurrent plan models or in distributed versions of heuristic search algorithms, but the diversity of MAP approaches makes it difficult for MAP research as a whole to benefit from these developments.

Therefore, this workshop intends to bring together researchers working on any form of multiagent planning or in related fields to discuss their common and differing goals and research methods, and to identify potentials for collaboration and cross-fertilization.

Topics

- Formalizations of the multi-agent planning problem
- Description languages for MAP
- Distributed planning algorithms
- Centralized planning algorithms for concurrent MA domains
- Distributed plan execution
- Distributed scheduling
- Communication in MAP
- Privacy issues in MAP
- Deliberative versus reactive planning in (highly dynamic) MAS
- MAP applications: systems and domains
- Evaluation, benchmark problems, standards

Format

The 1.5-day workshop will include invited speakers, topically grouped and moderated presentations of submitted papers, and above all, extensive panel and open discussions on key topics of MAP and directions for joint post-workshop efforts.

Submissions

The workshop will be limited to 40 to 60 invited participants. Persons interested in attending should electronically submit a short paper (up to 6 pages) or position statement (up to 2 pages) to Michael Brenner (brenner@informatik.uni-freiburg.de). Submitted research papers should be in PostScript or PDF format and use the AAAI style sheet.

Chairs

Michael Brenner, Institut fuer Informatik, Albert-Ludwigs-Universitaet Freiburg, Georges-Koehler-Allee Geb. 52, D-79110 Freiburg, Germany. *Email:* brenner@informatik.uni-freiburg.de

Marie desJardins, University of Maryland, Baltimore County, Department of Computer Science and Electrical Engineering, 1000 Hilltop Circle, Baltimore, MD 21250, USA. *Email:* mariedj@cs.umbc.edu

Committee

Joerg Denzinger, University of Calgary; Edmund Durfee, University of Michigan; Subbarao Kambhampati, Arizona State University; Marius Silaghi, Swiss Federal Institute of Technology Lausanne

Website

www.informatik.uni-freiburg.de/~brenner/MAP-workshop/

Preferences in AI and CP: Symbolic Approaches

Preferences are gaining more and more attention in AI and CP. As described in the article of Jon Doyle and Richmond Thomason about qualitative decision theory (*AI Magazine*, 1999), AI provides qualitative methods for treating preferences that can improve or complement numerical methods for treating preferences from classical decision theory. Preferences are essential to treat conflicting information in nonmonotonic reasoning, reasoning about action and time, planning, diagnosis, configuration, and other areas in knowledge representation and reasoning. In constraint programming, preferences are used to treat soft constraints, and to reduce search effort.

Preferences are complementary to constraints and represent an AI counterpart to objective or utility functions. AI permits complex preference representations and thus allows to reason with and about preferences. Hence, AI provides a new perspective for formalizing information that is essential for many decision making problems, e.g. web-based configuration, scheduling, robot planners.

The purpose of this workshop is to provide a forum for exchanging experiences with different (symbolic) approaches for treating and applying preferences, for comparing and bridging gaps between these approaches, and for identifying challenging questions for future research. It addresses theoretical approaches, algorithms, and implemented systems.

Topics

- Preferences in qualitative decision theory, non-monotonic reasoning, AI planning, reasoning about action and causality, preference logic
- Preferences for soft constraints, search and optimization
- Preference representations (e.g., graphical models)
- Acquisition and learning of preferences
- Preference elicitation
- Revision of preferences
- Comparison of approaches
- Applications of preferences

Format

The workshop will consist of an invited talk, technical sessions including paper presentations and panel discussions, and a final discussion.

Attendance

Participation is limited to authors of accepted papers and invited researchers interested in the topic of preferences (max 50 participants). Please send a statement of interest in participation to ujunker@ilog.fr.

Submissions

We solicit electronic submissions of papers (5-8 pages, formatted using the standard AAAI guidelines). Please send your PDF or PostScript file to ujunker@ilog.fr.

Ulrich Junker (ujunker@ilog.fr), ILOG, 1681, route des Dolines, F-06560 Valbonne, *Voice:* 33-492966201, *Fax:* 33-492966162. *Email:* ujunker@ilog.fr.

Chairs

Jim Delgrande, Simon Fraser University (jim@cs.sfu.ca); Jon Doyle, North Carolina State University (doyle@csc.ncsu.edu); Ulrich Junker, Ilog; Francesca Rossi, University of Padova (frossi@math.unipd.it); Torsten Schaub, University of Potsdam (torsten@cs.uni-potsdam.de).

Committee

Fahiem Bacchus, Craig Boutilier, Ronen Brafman, Gerd Brewka, Jim Delgrande, Jon Doyle, Eugene Freuder, Michael Gelfond, Peter Haddawy, Ulrich Junker, Antonis Kakas, Jerome Lang, Claude Le Pape, David Poole, Francesca Rossi, Ken Satoh, Torsten Schaub, Thomas Schiex, Richmond Thomason.

Website

www.cs.sfu.ca/Conf/prefs02/

Probabilistic Approaches in Search

Recently there has been considerable interest in approaches based on randomization, probability, and uncertainty to speed up computation and to model resources more realistically. For example, the performance and robustness of search procedures can often be improved by adding an element of randomness to the search procedures, as in randomized backtrack search and local search. Furthermore, probabilistic methods like Markov decision processes, Monte Carlo sampling, and Bayesian learning are now being used to study and improve the behavior of search procedures. The aim of this workshop is to explore the use of probabilistic methods in the modeling and understanding of search procedures, as well as their role in improving search procedures. This is the third workshop in the series. Previous workshops have been held alongside the AAAI-2000 conference and within the AAAI-01 Fall Symposium.

Topics

- Modeling uncertainty in computation
- Monte Carlo sampling
- Probabilistic analysis of algorithms
- Ensemble behavior (e.g. phase transitions)
- Randomization and restarts
- Stochastic backtracking
- Stochastic local search
- Portfolios of algorithms
- Anytime algorithms
- Algorithm robustness
- Bayesian tuning of algorithms

Format

The symposium will consist of invited talks, panel discussions, individual presentations and group discussions. The workshop will last one full day.

Submissions

To submit a paper to the workshop, please email a PostScript or PDF file, preferably in AAAI two-column format to Toby Walsh, tw@cs.york.ac.uk. Papers can be of any length but should not exceed 5 pages. Submit to Toby Walsh (address below).

Chairs

Carla Gomes, Dept. of Computer Science, 5133 Upson Hall, Cornell University Ithaca, NY 14853, USA. *Voice:* 607-255-9189. *Fax:* 607-255-4428). *Email:* gomes@cs.cornell. edu. www.cs.cornell.edu/gomes.

Toby Walsh, Department of Computer Science, The University of York, Heslington, York, YO10 5DD, United Kingdom. *Voice:* 44 1904 432793. *Cell:* 44 788 758 0382. *Fax:* 44 1904 432767. *Email:* tw@cs. york.ac.uk

Committee

Eric Horvitz, Microsoft Research (horvitz@ microsoft.com); Carla Gomes (Cochair), Cornell (gomes@cs.cornell.edu); Henry Kautz, University of Washington (kautz@cs. washington.edu); Michael Littman, AT&T (mlittman@research.att. com); Stephen Majercik, Bowdoin (smajerci@bowdoin.edu); David Poole, University of British Columbia (poole@cs.ubc.ca); Bart Selman, Cornell (selman@cs.cornell.edu); Joao Marques da Silva, University of Lisbon (jpms@inesc.pt); Stephen Smith, CMU (sfs@cs.cmu.edu); Toby Walsh (Cochair), York (tw@cs.york. ac.uk); Shlomo Zilberstein, University of Massachusetts at Amherst (shlomo@cs. umass.edu).

Website

www.cs.york.ac.uk/~tw/aaai02/

Real Time Decision Support and Diagnosis Systems

While AI methodologies are being applied towards increasingly realistic domains that require timely responses, real-time systems are coming to incorporate decision-making tools that require more intelligent capabilities. Many real-world intelligent systems call for autonomous intelligent agents acting in the face of uncertain knowledge and limited computational resources. Real-time decision support and diagnosis systems are two such important application domains.

Topics

Active research topics that are relevant to real-time decision support and diagnosis include:

- Real-time expert systems
- Embedded intelligent diagnosis agents
- Anytime uncertain reasoning algorithms and flexible computation
- Cost estimation for resource-bounded computation
- Decision-theoretic planning and deliberative real-time artificial intelligence
- Real-time Bayesian network inference and learning techniques
- Real-time algorithms for scheduling and situated planning
- Real-time sensor fusion and situation assessment
- Real-time knowledge discovery in databases (KDD)

Format

The one-day workshop will include one or more invited talks and specialized tutorials on state-of-the-art research problems and methodologies, presentations by selected participants, and a panel and open discussion on key topics.

Attendance

The workshop will be of interest to researchers and practitioners in the area of uncertain reasoning (UAI), real-time artificial intelligence (RTAI), and real-time knowledge discovery in databases (KDD). Participation will be based on submitted research summaries. We anticipate participation by 25 to 50 people at the workshop.

Submissions

Please submit a brief paper (under 12 pages) formatted using standard AAAI guidelines. Experimental results are also encouraged, especially on fielded applications, even if they are only preliminary. Papers should be submitted electronically in PostScipt or PDF or MS Word format via email. All submissions should be sent to rtdsds-2002@kddresearch.org.

Chairs

Haipeng Guo (primary contact), hpguo@cis.ksu.edu; Eric Horvitz, horvitz@microsoft.com; William H. Hsu (primary contact), bhsu@cis.ksu.edu; Eugene Santos Jr., eugene@engr.uconn.edu;

Committee

Bruce D'Ambrosio, Oregon State Univ; Fabio Gagliardi Cozman, Univ of Sao Paulo; Marek J. Druzdzel, Univ. of Pittsburgh; Haipeng Guo, KSU; Eric Horvitz, Microsoft Research; William H. Hsu, KSU; Henry Kautz, Univ of Washington; Sven Koenig, Georgia Institute of Technology; Mitchell L. Neilsen, KSU; David Poole, Univ of British Columbia; Eugene Santos Jr., Univ of Connecticut; Solomon Shimony, Ben Gurion Univ; Shlomo Zilberstein, Univ of Massachusetts.

Website

www.kddresearch.org/KDD/Workshops/RTDSDS-2002/

Semantic Web Meets Language Resources

This workshop is intended to bring together researchers in AI who are working on the semantic web and those involved in the development of standards for linguistic annotation, to enable an exchange of information and ideas. This is a critical point at which to bring together these two groups, who typically have little interaction. Those involved in developing language resources need to gain a deeper understanding of the potential of and requirements for the semantic web and standardized ontologies. AI researchers, who are working on a general model, will gain insight by considering an application of their work to actual content and, more generally, by considering the needs for a specific domain that requires complex representation mechanisms and sophisticated means to exploit the information.

Topics

We invite short proposals for workshop presentations, addressing any of the following topics:

- Representing meaning in natural languages using ontological support and/or practical applications of such ontological-semantic work
- Problems for representing linguistic data, including the need to accommodate potentially different theoretical approaches in a common framework,
- Inadequacies of current means to represent linguistic annotations, and requirements for *annotation ontologies*
- Potential for exploiting inferencing capabilities etc. in linguistically annotated data, and the representation requirements that will enable this
- Techniques for combining statistical and non-statistical approaches to ontology development

Proposals should be approximately 2 pages in length, providing an overview of the work to be described. For papers addressing work primarily in the area of ontology development or primarily concerned with linguistic annotation, a clear statement of the relevance and/or applicability of work in the other domain should be provided.

The program committee will select 4 to 5 proposals for presentation at the workshop, with the overall goal of assuring a balance in the presentation topics. Authors of accepted papers will then be invited to submit a full paper of approximately 10 pages in length.

Submissions

Please send proposals in ASCII, PostScript, PDF, or Word RTF format to aaai02-ws@cs.vassar.

Chairs

Nancy Ide
Department of Computer Science
Vassar College
Poughkeepsie, New York 12604-0520
Tel: (845) 437 5988
Fax: (845) 437 7498
Email: ide@cs.vassar.edu

Chris Welty
Department of Computer Science
Vassar College
Poughkeepsie, New York 12604-0462
Tel: (845) 437 5992
Fax: (845) 437 7498
Email: welty@cs.vassar.edu

Committee

Paul Buitelaar, DFKI, Saarbrucken; Nicoletta Calzolari, ILC-CNR; Christiane Fellbaum, Princeton University; Aldo Gangemi, ITBM-CNR; Nicola Guarino, LADSEB-CNR; Graeme Hirst, University of Toronto; Atanas Kiryakov, SIRMA Ontotext Lab; Sergei Nirenburg, New Mexico State University; James Pustejovsky, Brandeis University; Laurent Romary, LORIA/INRI

Website

www.cs.vassar.edu/~ide/events/AAAI02-ws.html

Spatial and Temporal Reasoning

This workshop is intended as a forum for discussion, exchange of points of view, assessment of results and methods, and as a source of dissemination and promotion of the newest advances in the area of spatial and temporal reasoning. Recent years have witnessed remarkable advances in some of the longstanding problems of the field (for instance, new results about tractability for spatial calculi, explicit construction of models, characterization of important subclasses of relations), as well as in the development of new areas (the appearance of new integrated spatio-temporal calculi is one example, as well as the development of multi-dimensional spatial calculi). Likewise, proposals have been made to remedy some of the weak points of the symbolic approach, by introducing fuzzy versions of classical calculi, or importing nonmonotonic techniques for dealing with incomplete information. At the same time, leaders in AI have sounded the need for solving real problems and making the work on representation and reasoning relevant to the real world.

Around forty participants will be selected to attend the workshop, contributing and participating in discussions. Accepted papers will be included in the workshop working notes to be distributed by AAAI. Screening will be based on reviews and relevance to the workshop goals.

Submissions

Electronic submissions are solicited in TeX, LaTeX, PostScript, or PDF format. The papers, starting with title, authors' names, addresses, phone and fax numbers, and email addresses, followed by keywords, and concluding with relevant bibliographic references, should fit on 4 to 10 single-spaced typewritten A4 or 8.5 x 11 inch pages, in the form of an extended abstract or complete research, survey, or position paper. Selection of participants will be based on relevance to the indicated focus of the workshop, clarity of the work submitted, and the strength of the research. Submit to Hans W. Guesgen

Chairs

Frank D. Anger, Program Director, Software Eng. & Languages Prog., CISE/C-CR, Room 1145, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230. *Voice:* (703) 306-1911. *Fax:* (703) 306-1947. *Email:* fanger@nsf.gov.

Hans W. Guesgen (primary contact), Computer Science Department, University of Auckland, Auckland, New Zealand. *Voice:* (64) (9) 373-7599. *Fax:* (64) (9) 373-7453. *Email:* hans@cs.auckland.ac.nz.

Gérard Ligozat, LIMSI, Paris-Sud University, P.O. Box 133, 91403 Orsay, France. *Voice:* (33) (0)1 69 85 80 18. *Fax:* (33) (0)1 69 85 80 88. *Email:* ligozat@limsi.fr.

Committee

Brandon Bennett, University of Leeds (brandon@comp.leeds.ac.uk); Claudio Bettini, University of Milano (bettini@dsi.unimi.it); Ernest Davis, New York University (davise @cs.nyu.edu); Antony Galton, University of Exeter (a.p.galton@exeter.ac.uk); Kathleen Hornsby, University of Maine (khornsby@ spatial.maine.edu); Christian Kray, DFKI (Saarbruecken, kray@dfki.de); Angelo Montanari, University of Udine (montana@dimi.uniud.it); Jochen Renz, Vienna University of Technology (renz@dbai.tuwien.ac.at); Christoph Schlieder, University of Bremen (cs@tzi.de); Stefano Spaccapietra, Swiss Federal Institute of Technology (stefano.spaccapietra@epfl.ch); Laure Vieu, IRIT (vieu@irit.fr).

Website

www.cs.auckland.ac.nz/~hans/space-time/.