



AAAI Fall Symposium Series

REGISTRATION

October 23, 24, & 25, 1992

Royal Sonesta Hotel

Cambridge, Massachusetts

Sponsored by the American Association for Artificial Intelligence
445 Burgess Drive, Menlo Park, CA 94025 (415) 328-3123 fss@aaai.org

The American Association for Artificial Intelligence presents the 1992 Fall Symposium Series, to be held October 23-25, 1992, at the Royal Sonesta Hotel, Cambridge, Massachusetts.

The topics of the five symposia in the 1992 Fall Symposium Series are:

- Applications of AI to Real-World Autonomous Mobile Robots
- Design from Physical Principles
- Intelligent Scientific Computation
- Issues in Description Logics: Users Meet Developers
- Probabilistic Approaches to Natural Language

The highlights of each symposium will be presented at a special plenary session. Working notes will be prepared and distributed to participants in each symposium, but will not otherwise be available unless published as an AAAI Technical Report or edited collection.

Each symposium will have limited attendance. Participants will be expected to attend a single symposium throughout the symposium series. In addition to participants selected by the program committees of the symposia, a limited number of other interested parties will be allowed to register in each symposium on a first-come, first-served basis. To register, please fill out the enclosed form, and send it along with payment to:

Fall Symposium Series-92
AAAI
445 Burgess Drive
Menlo Park, CA 94025

The Fall Symposium Series precedes the Third International Conference on Principles of Knowledge Representation and Reasoning (KR'92) at the same location October 25-29, 1992. For registration information about KR'92, send email to kr92-info@cs.tufts.edu or contact Jim Schmolze, Department of Computer Science, Tufts University, Medford, MA 02155, (617-627-3214).

Applications of Artificial Intelligence to Real-World Autonomous Mobile Robots

Building intelligent robots which can perform tasks autonomously in the real world has long been a goal of artificial intelligence research. While a great deal of progress has been made towards this goal in recent years, there is still a wide gap between what theorists claim should be possible and what has been functionally demonstrated on robots.

This symposium will bring together artificial intelligence and robotics researchers to explore this dichotomy between theory and practice. In particular, the following issues will be addressed: 1) What recent results from the artificial intelligence research community are ready to be applied to real-world robots? 2) For those results which are not yet suitable for implementation, what are the outstanding issues which must be resolved? 3) To what degree can formal theories be applied to practical problems of autonomous robots? 4) How can we apply metrics to analyze robot performance and how can we relate those metrics back to design principles in order to attain a better understanding of why certain approaches work or don't work?

Symposium committee: Steve Chien, Erann Gat, cochair, (gat@robotics.jpl.nasa.gov), Avi Kak, Marc Slack, cochair, (slack@starbase.mitre.org, cochair)

Intelligent Scientific Computation (in cooperation with IMACS)

The goal of the symposium on intelligent scientific computing is to identify the scope of contributions that artificial intelligence has and might make to scientific computing and vice versa. We will focus on critical issues in the practical application of computer programs to solve difficult real-world problems such as the super-computer-sized grand challenges (e.g., forecasting severe weather events,

predicting superconductors, or energy conservation and turbulent combustion). These problems often involve the formulation and use of mathematical models in the form of differential equations. We include also the significant improvement of solution techniques or solution time for engineering problems routinely tackled today, such as seismic modeling or ship design. Topics covered will include environments for scientific computing and engineering design, automated model generation, automated code generation, smart interfaces to numerical and visualization routines, uses for symbolic algebra, intelligent data analysis, and representation and reasoning issues.

Symposium Committee: Elaine Kant (kant@slcs.slb.com), Richard Keller (keller@ptolemy.arc.nasa.gov), Stanly Steinberg (stanly@crunch.unm.edu)

Issues in Description Logics: Users Meet Developers

During the 1980s, a branch of the knowledge representation community developed a specialized class of logics known either as terminological logics or description logics (DLs). Numerous implementations of these logics have emerged, along with a substantial body of theoretical work. This workshop is intended to bring together developers of description logic systems with users of these systems. The workshop will focus on issues and ideas that provide new ways of viewing the existing DL paradigm, comment on “proper” ways to apply the paradigm, or describe representational extensions or alternatives that complement a DL reasoner.

Issues addressed by the submitted papers include the following: partial reasoning, structural subsumption, cyclic definitions, default reasoning with DLs, DLs and part-whole relations, concepts/roles vs. unary/ binary relations, DLs and second-order reasoning, integration of a DL classifier and a planning system, retrospectives on DL systems, and what is still missing in DL systems. Workshop discussions will be organized around specific topics intended to subsume

the issues raised in the submitted papers. During the workshop, we will collectively try to work toward solutions to some of these issues.

Symposium Committee: Robert MacGregor, chair, (macgregor@isi.edu), Deborah McGuinness, Eric Mays, Tom Russ.

Design from Physical Principles

The symposium concentrates on the use and representation of skills of mathematics, physics and engineering towards the design of physical artifacts and processes. The objective of the symposium is to bring together researchers from a diverse set of areas with a common interest in design from physical principles. These areas include, among others, modeling, dynamics, qualitative, temporal, geometric and terminological reasoning, as well as planning, diagnosis, learning, automated deduction, and traditional engineering design. Design provides these researchers a common focus to communicate their ideas, to combine their techniques, and to evaluate their progress.

The symposium aims at creating the appropriate synergy by providing a focused forum for cross-communication. The design community will be served by exposing it to the sophisticated set of reasoning techniques and mathematical tools currently available. The core reasoning communities will be served by providing them with a task which allows them to focus and evaluate their efforts, as well as to provide them with an infusion of new problems, representations and reasoning skills related to design.

Symposium Committee: Brian Williams, cochair, (bwilliams@parc.xerox.com), Leo Joskowicz, cochair, Tom Dean, Jon Cagan

Probabilistic Approaches to Natural Language

Recently there has been a resurgence of interest in probabilistic methods in AI, spurred by technical developments which have made these methods more practical. Bayesian and decision-theoretic approaches have been facilitated by the development of graphical representations such as belief (or Bayesian) networks, and influence diagrams. Learning approaches have been promoted by new developments in statistical learning (particularly hidden Markov models). These methods all offer hopes to address problems of brittleness and knowledge representation in natural language processing. This symposium which will bring together researchers applying these probabilistic methods in order to share perspectives. We intend that the discussion will emphasize reviews of the current state of the art and views of the most promising lines of research.

Symposium Committee: Robert Goldman (rpg@cs.tulane.edu), Peter Norvig, Eugene Charniak, Bill Gale.

Registration

ALL ATTENDEES MUST PREREGISTER. Each symposium has a limited attendance, with priority given to invited attendees. All accepted authors, symposium participants, and other invited attendees must register by August 28, 1992. After that period, registration will be opened up to the general membership of AAAI and other interested parties. All registrations must be postmarked by September 15, 1992.

Your registration fee of \$210.00 (students \$95; legible proof of full-time student status must be included) covers your attendance at the symposium, a copy of the working notes for your symposium, and the reception.

Please fill out the attached registration

form and mail it with your fee to:

AAAI 1992 Fall Symposium
445 Burgess Drive
Menlo Park, CA 94025

Checks (drawn on US bank) or international money orders should be made out to AAAI. VISA, MasterCard and American Express are also accepted.

Please note: All refund requests must be in writing and postmarked by October 6, 1992.

A \$25.00 processing fee will be levied on all refunds granted.

When you arrive at the Royal Sonesta, please pick up your complete registration packet in the lobby, near the front desk. Registration hours will be:

Thursday, October 22 5:00 pm – 7:30 pm
Friday, October 23 8:00 am–5:00 pm
Saturday, October 24 8:00 am – 5:00 pm

Please call Annette Eldredge at 415/328-3123 for further information.

Accommodations

For your convenience, AAAI has reserved a block of rooms at the Royal Sonesta Hotel. The prices are: \$115.00 for single and \$125 for double. Symposium attendees must contact the Royal Sonesta Hotel directly. Please identify yourself as an American Association for Artificial Intelligence Fall Symposium registrant to qualify for the reduced rate.

Royal Sonesta Hotel

5 Cambridge Parkway
Cambridge, MA 02142
Telephone: 617-491-3600
Fax: 617-661-5956

Disclaimer: In offering the Royal Sonesta Hotel (hereinafter referred to as "Supplier") and all other service providers for the AAAI Fall Symposium Series, the American Association for Artificial Intelligence acts only in the capacity of agent for the Supplier which is the provider of hotel rooms. Because the American Association for Artificial Intelligence has no control over the personnel, equipment or

operations of providers of accommodations or other services included as part of the Symposium program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences or other damage suffered by symposium participants which may arise by reason of (1) any wrongful or negligent acts or omissions on the part of any Supplier or its employees, (2) any defect in or failure of any vehicle, equipment or instrumentality owned, operated or otherwise used by any Supplier, or (3) any wrongful or negligent acts or omissions on the part of any other party not under the control, direct or otherwise, of AAAI.

Ground Transportation

This information is the best available at time of printing. Fares and routes change frequently. Please check by telephoning the appropriate numbers below for the most up-to-date information.

Taxi

Checker Cab, phone: 617-497-1500. Cab fare from Logan International Airport is approximately \$15.00.

Courtesy Van & Public Transportation

A courtesy van to many downtown Boston and Cambridge locations is provided from the Royal Sonesta Hotel. Public transportation by the underground subway, the "T," is 1/8 mile from the hotel.

Parking

Indoor parking is available at the Royal Sonesta Hotel.

Car

Hertz has been designated as the official rental car company for the AAAI Fall Symposium Series. To qualify for the special rates arranged with Hertz, please call the Hertz convention desk at 800/654-2240. Be sure to identify yourself as an attendee of the symposium, and give the code CV10179. Hertz has a convenient rental desk located at Logan International Airport. To be assured of the best possible rates at the time of booking, ask if

there is a lower rate for the time of rental.

Tentative Program Schedule

(subject to change)

Friday, October 23

9:00 am-5:30 pm Sessions

6:00 pm-7:00 pm Reception

Saturday, October 24

9:00 am-5:30 pm Sessions

7:30 pm-9:00 pm Plenary session

Sunday, October 25

9:00 am-12:30 pm Sessions

Registration Form

1992 AAAI Fall Symposium Series

ALL ATTENDEES MUST PREREGISTER
Please complete in full and return to AAAI, postmarked by August 28, 1992 (invited attendees) or by September 15, 1992 (general registration). Please print or type.

First name _____ Last name _____

Affiliation _____

Address _____ Home or Business

City _____ State _____

Zip or postal code _____ Country _____

Daytime telephone _____

Net address _____

Symposium

(Please check only one)

- 1. Applications of AI to Real-World Autonomous Mobile Robots
- 2. Design from Physical Principles
- 3. Intelligent Scientific Computation
- 4. Issues in Description Logics: Users Meet Developers
- 5. Probabilistic Approaches to Natural Language

Fee

Regular: \$ 210.00

Student \$ 95.00 *(students, must send legible proof of full-time student status.)*

TOTAL FEE *(Please enter correct amount.)*

\$ _____

Method of Payment *(please circle one)*

Check Mastercard VISA American Express

Credit card number _____ Expiration date _____

Name (as it appears on card) _____

Signature _____

Please mail completed form with your payment to

AAAI Fall Symposium Series • 445 Burgess Drive • Menlo Park, California 94025-3496

Please Note: Requests for refunds must be received *in writing* by 6 October 1992.

A \$25.00 processing fee will be levied on all refunds granted.

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Check Number _____ Amount _____ Received _____