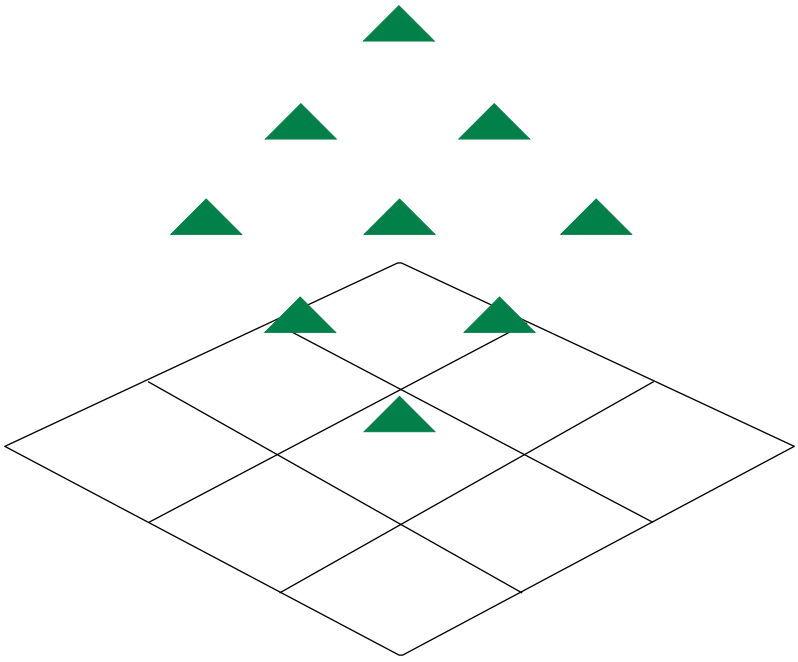

AAAI 1993

Spring Symposium Series

March 23-25, 1993
Stanford University, California

Registration

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

The American Association for Artificial Intelligence, in cooperation with Stanford University's Department of Computer Science, presents the 1993 Spring Symposium Series, to be held March 23–25, 1993, at Stanford University. The topics of the eight symposia in the 1993 Spring Symposium Series are:

- *AI and Creativity*
- *AI and NP-Hard Problems*
- *Building Lexicons for Machine Translation*
- *Case-Based Reasoning and Information Retrieval—Exploring the Opportunities for Technology Sharing*
- *Foundations of Automatic Planning: the Classical Approach and Beyond*
- *Innovative Applications of Massive Parallelism*
- *Reasoning About Mental States: Formal Theories and Applications*
- *Training Issues in Incremental Learning*

In addition to the working sessions of the individual symposia, the series will feature a joint plenary session. Working notes will be prepared and distributed to participants in each symposium and may also be available as AAAI Technical Reports.

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:

Spring Symposium Series-93
AAAI
445 Burgess Drive
Menlo Park, CA 94025

AI and Creativity

This symposium will provide a forum for exploring current research in, or relevant to, AI and cognitive science that pertains to creativity. It will draw together researchers from diverse disciplines as well as practitioners and managers engaged in projects that require creativity. Relevant disciplines include AI, cognitive science, computer science, psychology, philosophy, logic, design, engineering, and others. Papers will be presented on a wide range of topics, including philosophical issues in the computational study of creativity, psychological theories and models of creativity, conceptual and formal models of creativity, representational redescription, analogy and metaphor, theory generation and discovery, hybrid architectures (e.g. classical and connectionist hybrids, hybrids using genetic algorithms to evolve neural nets, interplay of deterministic and probabilistic strategies), use of AI and other computational techniques to enhance creativity, and application areas (e.g. science, engineering, architecture and design, business, and government). The symposium will maintain a balance between theoretical issues and descriptions of implemented systems.

Program Committee: Terry Dartnall (cochair), Steven Kim (cochair), Robert Levinson, Devika Subramanian, Fay Sudweeks (fay@archsci.arch.su.edu.au)

AI and NP-Hard Problems

Numerous problems that arise naturally in knowledge representation, learning, planning, and other areas of AI can be shown to be NP-hard. Many of these problems involve computationally similar issues cast in different domain-specific guises. This symposium is devoted to the fast-growing community of researchers studying the relationship of AI problems and algorithms to more traditional problems and algorithms from the theoretical computer-science com-

munity. For example, stripping away domain-specific details and applying AI methods directly to intractable problems in their "pure" form (e.g., on problems formulated in terms of mathematical primitives such as graphs and sets) makes it possible to generalize results and minimizes the potential for repeatedly attacking the same problem in different domain-specific guises. Moreover, such "abstracted" versions of AI problems provide a good testbed for comparing the behavior of competing algorithms.

The focus of this symposium is on work that is grounded in actual algorithms (ideally with implementations), or that at least makes clear contributions to such efforts. The symposium will be organized in a format that combines research presentations with open-ended discussions, and will include presentations on more established research as well as ongoing efforts.

Program Committee: James Crawford, Rina Dechter, Tom Ellman, Haym Hirsh (chair, hirsh@cs.rutgers.edu), David McAllester, Steve Minton, Bart Selman.

Case-Based Reasoning and Information Retrieval—Exploring the Opportunities for Technology Sharing

The fields of case-based reasoning and information retrieval have a shared interest in the indexing of information, the formulation of query expressions suited to retrieving relevant cases, heuristic matching, the measurement of similarity, and the use of domain knowledge to improve search. The purpose of this symposium is to bring researchers from both communities together to discuss issues of common interest, share the results and experiences of their respective research, and seek areas of potential future technology transfer or convergence.

Specific topics of interest include, but are not limited to, such questions as:

- How might IR integrate and take advantage of more structured information, as used in CBR? Can weak and strong retrieval methods be effectively combined?
- How does CBR scale up to large collections of semi-structured information? How can CBR minimize the need for hand-tailoring of the data in a case base?
- What similarity assessment methods and metrics have been developed in CBR and IR? What demands do they make on knowledge representation schemes?
- How well do CBR/IR techniques apply to multi-media information bases?
- How can the construction of viable queries for retrieving desired information be facilitated through CBR methods?
- What kinds of knowledge representations are needed to support reasoning (over cases) as opposed to retrieval? What is the role of reasoning in retrieval?
- Can/should the functions of textual information retrieval and case-based reasoning be integrated into a single application? How can the effectiveness of such a hybrid CBR/IR system be evaluated?

Program Committee: Peter Anick (cochair), Bruce Croft, William Mark, Chris Riesbeck, Evangelos Simoudis (cochair, simoudis@aic.lockheed.com)

Reasoning about Mental States: Formal Theories & Applications

Researchers in AI often design systems that must be able to reason about both their own mental states and those of others. This kind of reasoning is common in a number of areas, including cooperative interfaces for databases, database security, planning, intelligent tutoring and especially multi-agent coordination. However, until recently, most formal work on mental states within AI has concentrated only on a related pair of notions—knowledge and belief. In the past few years, however, an increasing reliance on a wide variety of mentalistic notions in

the design and understanding of actual systems has led to a broadening of this formal work. As a result, there now exist within AI formal theories of a number of mentalistic notions and their close relatives, including: ability, action, choice, commitment, desire, intention, goals, obligation, perception.

The aim of this symposium is to bring together researchers working on formalisms for reasoning about these mentalistic notions, and also researchers involved in the design of systems that rely upon or incorporate these notions. We hope that the symposium will help to focus research on the development of precise theories for reasoning about a variety of mental states, and also that it can serve as a forum for interaction between those working in other areas whose research relies upon these theories and those concerned primarily with the logic of the matter.

Program Committee: Jon Doyle, John Horty (cochair, horty@umiacs.umd.edu), Hector Levesque, Martha Pollack, Yoav Shoham (cochair).

Innovative Applications of Massive Parallelism

The purpose of this symposium is to bring together researchers in different areas of AI who are working in a paradigm using massive parallelism. It is conjectured that massive parallelism will help to overcome what appears to be an impasse in the advancement of AI. The symposium will feature submitted papers on massively parallel search, parallel distributed constraint satisfaction problems, parallelism in inference applications, parallel natural language parsing, massively parallel knowledge representation, cellular computers, massively parallel genetic algorithms, massively parallel memory retrieval, parallelism applied to robot motion planning, case-based reasoning, parallel and distributed rule processing, massive parallelism in neural network simulation, and other topics. Submissions have been received from all parts of the United States and Europe as well as from Japan, from major universities as well as companies. Invited participants include Scott Fahlman, Jim Hendler, Carl Hewitt, Dan Moldovan, and Lokendra Shastri.

Program Committee: Gul Agha, Matt Evett, James Geller (chair, geller@hertz.njit.edu), Hiroaki Kitano, Curt Powley, Dave Waltz.

Foundations of Automatic Planning: The Classical Approach and Beyond

The focus of this symposium will be on taking stock of where AI planning has been and where it is going—an "introspective analysis" of the field in general and classical planning's foundational role in particular. The workshop will foster discussion on various fronts. First, we hope to constructively analyze inherent strengths and weaknesses of the classical approach. While previous classical planning systems may have failed to achieve certain types of behavior, the underlying precepts of classical planning may not themselves be flawed. Another goal is to relate new formalisms and approaches to previous work in classical planning. Finally, since terminology has often become confused in recent years, one of the goals of the symposium will be to establish a more solid agreement on a planning vocabulary. By doing so, we hope to clarify the status of current results and outstanding problems.

Papers were solicited in the following topic areas: planning techniques (with an eye towards fostering comparative understanding within the field); terminology (a focus on defining common language); research methodology and evaluation (a focus on the qualities that domains should manifest and what domains tell us about planner performance).

Program Committee: Mark Drummond, Subbarao Kambhampati, Amy Lansky (chair, lansky@ptolemy.arc.nasa.gov), Ed Pednault, Qiang Yang.

Building Lexicons for Machine Translation

This symposium provides a forum for researchers from the fields of MT and the lexicon to focus on the intersection of the two fields. A number of fundamental questions will be addressed:

- What lexical levels are required by a machine translation system?
- What are the interdependencies between these levels?
- Can automatic procedures be used for the construction of lexical representations?
- To what extent is it possible to share lexicons?
- What are the different types of MT mappings and how do these mappings affect the representation that is used in the lexicon?
- What types of MT divergences and mismatches must be accommodated in the lexicon?
- Can we, or have we, achieved language-independence in the representations that are used in the lexicon?

Program Committee: Michael Brent, Bonnie Dorr (chair, bonnie@umiacs.umd.edu), Sergei Nirenburg, Elaine Rich, Patrick Saint-Dizier.

Training Issues in Incremental Learning

In contrast with batch learning in which all the data are available before processing, incremental learning implies that the learner process the data sequentially, and make predictions in an on-line manner, typically updating the hypothesis throughout the learning session. While many researchers have studied incremental learning systems, until recently, little effort was spent identifying and studying issues specific to incremental learning. For example:

- How do the complexity of learning (cost of updating the hypothesis) and the improvement in the accuracy of the hypothesis change during the course of the learning session?
- How many observations are required to obtain a "stable" hypothesis?
- How does data ordering affect learning?
- How can concept drift be handled?

Accordingly, the focus of this symposium is not on implementations, but on the general properties and common issues addressed by the many separate research efforts in the area of Incremental Learning.

Program Committee: Antoine Cornuejols (chair, antoine@lri.lri.fr), Douglas Fisher, Sally Goldman, Lorenza Saitta, Jeffrey Schlimmer.

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 February 5, 1993.** After that period, registration will be opened up to the general membership of AAAI and other interested parties. **All registrations must be postmarked by February 19, 1993.**

Your registration fee of $215.00 (students $95.00; 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:

Spring Symposium Series–93
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.

Parking will be available on the Stanford campus from March 23-25 for $15.00. Application for a parking permit is included on the attached registration form. A permit will be mailed to you with your preregistration

materials along with a map and directions to the assigned lots.

Please note: Requests for refunds must be received in writing by March 5, 1993. A $25.00 processing fee will be levied on all refunds granted.

When you arrive at Stanford, please pick up your complete registration packet in the lobby of Cubberly Auditorium, located in the School of Education. Registration hours will be:

Monday, March 22:	3:00 PM – 5:00 PM
Tuesday, March 23:	8:00 AM – 5:00 PM
Wednesday, March 24:	8:00 AM – 5:00 PM
Thursday, March 25:	8:00 AM – 12:00 PM

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

Tentative Program Schedule

(subject to change)

Tuesday, March 23

9:00 AM—5:30 PM	Symposia sessions
6:00 PM—7:00 PM	Reception, Tresidder Oak Lounge

Wednesday, March 24

9:00 AM—5:30 PM	Symposia sessions
7:30 PM—10:00 PM	Plenary sessions, Cubberly Auditorium

Thursday, March 25

9:00 AM—12:30 PM	Symposia sessions

Registration will be in the lobby of Cubberly Auditorium in the School of Education.

Hotels

For your convenience, AAAI has reserved a block of rooms at the following hotels. **Symposium attendees must contact the hotels directly. Please identify yourself as an AAAI Spring Symposium Series registrant to qualify for the reduced rate.**

Creekside Inn (Best Western)
3400 El Camino Real
Palo Alto, CA 94306
Phone: 415/493-2411
Fax: 415/493-6787
Marguerite shuttle pick-up: 0.5 mile
Rates: $62-68 (S or D)
Reserve before 3/1/93

Holiday Inn-Palo Alto
625 El Camino Real
Palo Alto, CA 94301
Phone: 415/328-2800
Fax: 415/327-7362
Marguerite shuttle stop nearby
Rates: $96 (S), $106 (D)
Reserve before: 3/9/93

Stanford Terrace Inn
531 Stanford Ave
Palo Alto, CA 94306
Phone: 415/857-0333
Fax: 415/857-0343
Marguerite shuttle stop nearby
Rates: $77 (S), $82 (D)
Reserve before: 2/22/93

Other Hotels

(Available only on a first-come, first served basis; all prices are subject to changes without notice):

Mermaid Inn
727 El Camino Real
Menlo Park, CA 94025
Phone: 415/323-9481
No fax.
Rates: $48-62 (S), $58-68 (D)

Riviera Motor Lodge
15 El Camino Real
Menlo Park, CA 94025
Phone: 415/321-8772
Fax: 415/321-2137
Rates: $44 (S), $52 (D)

The Cardinal Hotel
235 Hamilton Avenue
Palo Alto, CA 94301
Phone: 415/323-5101
Fax: 415/325-6086
Marguerite shuttle stop nearby
Rates: $55 (S), $65 (D)

Hotel California
2431 Ash Street
Palo Alto, CA 94306
Phone: 415/322-7666
No fax.
Marguerite shuttle stop nearby
Rates: $48 (S), $51 (D)
(Continental breakfast included)

Travelodge
3255 El Camino Real
Palo Alto, CA 94306
Phone: 415/493-6340
Fax: 415/424-9535
Marguerite shuttle stop nearby
Rates: $52 (S), $57 (D)

Disclaimer

In offering the Creekside Inn (Best Western), Holiday Inn, and Stanford Terrace Inn (hereinafter referred to as "Supplier") and all other service providers for the AAAI Spring Symposium Series, the American Association for Artificial Intelligence acts only in the capacity of agent for the Supplier which is the provider of transportation or 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.

Van

***Supershuttle*—**24 hour van service to and from San Francisco Airport. San Francisco Airport–Palo Alto rates are: $23.00 for one person one way; $23.00 plus $7.00 for two persons going to the same address. Cash and major credit cards accepted. For reservations call 415/558-8500.

***Airport Connection*—**Van service $14.00 one way to and from San Francisco Airport to Palo Alto. From San Jose Airport, shared ride service (no vans) is $19.00 to Palo Alto. Cash, major credit cards, or checks accepted. Call 415/363-1500 within California, or 800/247-7678 in other areas. White courtesy telephone available at San Francisco Airport.

Stanford Shuttle

The Stanford University Marguerite Shuttle Bus provides service from several points along El Camino Real, the train station, and other surrounding locations to the Stanford Oval as well as transportation around the Stanford campus. Complete Marguerite schedules will be included in registration packets.

Train

The Southern Pacific Commuter Train runs between San Francisco and Palo Alto station starting at 4:50 am with the last train leaving San Francisco at 10:00 pm (weekdays). The fare is $6.00 round trip for same-day travel, or $3.00 one way. For up-to-date fare information and time tables, call toll free 800/660-4287.

Registration Form—1993 AAAI Spring Symposium Series

ALL ATTENDEES MUST PREREGISTER
Please complete in full and return to AAAI, postmarked by February 5, 1993 (invited attendees), or by February 19, 1993 (general registration).
Please print or type.

First name _____ Last name _____

Affiliation _____

Address: _____ Home ☐ or Business ☐

City _____ State _____

Zip or postal code _____ Country _____

Daytime telephone _____ Email _____

Symposium

(Please check only one)
☐ 1. AI and Creativity
☐ 2. AI and NP-Hard Problems
☐ 3. Building Lexicons for Machine Translation
☐ 4. CBR and Information Retrieval–Exploring the Opportunities for Technology Sharing
☐ 5. Foundations of Automatic Planning: The Classical Approach and Beyond
☐ 6. Innovative Applications of Massive Parallelism
☐ 7. Reasoning about Mental States: Formal Theories & Applications
☐ 8. Training Issues in Incremental Learning

Fee

☐ Regular: $ 215.00
☐ Student: $95.00 *(students must send legible proof of full-time student status)*
☐ Temporary Stanford University parking permit ($15.00)

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

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Please Note: Requests for refunds must be received *in writing* by March 5, 1993.
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For Office Use Only

Check Number _____ Amount _____

Received _____