

# Stanford

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## Michael Genesereth

Associate Professor of Computer Science

### CONTACT INFORMATION

- **Administrator**

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### Bio

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#### BIO

Genesereth is best known for his work on computational logic and applications of that work in enterprise management and electronic commerce. Basic research interests include knowledge representation, automated reasoning, and rational action. Current projects include logical spreadsheets, data, and service integration on the World Wide Web, and computational law.

#### ACADEMIC APPOINTMENTS

- Associate Professor, Computer Science

#### PROGRAM AFFILIATIONS

- Symbolic Systems Program

#### PROFESSIONAL EDUCATION

- PhD, Harvard University (1978)

#### LINKS

- <http://logic.stanford.edu/people/genesereth>: <http://logic.stanford.edu/people/genesereth>

### Teaching

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#### COURSES

##### 2019-20

- Computational Law: CS 204 (Spr)
- Computational Law: LAW 4019 (Spr)
- Computational Logic: CS 157 (Aut)
- General Game Playing: CS 227B (Spr)
- Knowledge Graphs: CS 520 (Spr)
- Logic Programming: CS 151 (Spr)

#### 2018-19

- Computational Logic: CS 157 (Aut)
- General Game Playing: CS 227B (Spr)
- Legal Informatics: CS 204 (Spr)
- Legal Informatics: LAW 4019 (Spr)
- Logic Programming: CS 151 (Spr)

#### 2017-18

- General Game Playing: CS 227B (Spr)
- Legal Informatics: CS 204 (Spr)
- Legal Informatics: LAW 4019 (Spr)
- Logic and Automated Reasoning: CS 157 (Aut)

#### 2016-17

- General Game Playing: CS 227B (Spr)
- Legal Informatics: CS 204 (Spr)
- Legal Informatics: LAW 4019 (Spr)
- Logic and Automated Reasoning: CS 157 (Aut)

### STANFORD ADVISEES

#### Master's Program Advisor

Max Arseneault, Bowen Deng, Caroline Gao, Josh Hedtke, Cary Huang, Shawn Manuel, Dennis Martin, Eric Nielsen, Teresa Noyola

### Publications

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#### PUBLICATIONS

- **Multi-Vendor Catalogs: Smart Catalogs and Virtual Catalogs**  
Keller, A., M., Genesereth, M., R.
- **Data Integration - The Relational Logic Approach**  
Genesereth, M., R.  
Morgan-Claypool.2010
- **Computational Law**  
Love, N., Genesereth, M., R.  
2005
- **Axiom Schemata as Metalevel Axioms: Model Theory**  
Hinrichs, T., L., Genesereth, M., R.  
2005
- **PrediCalc: A Logical Spreadsheet Management System**  
Kassoff, M., Zen, L., Garg, A., Genesereth, M., R.  
2005
- **Database Reformulation with Integrity Constraints**  
Chirkova, R., Genesereth, M., R.  
2005
- **General Game Playing - Overview of the AAAI Competition** *AAAI Magazine*  
Genesereth, M., R., Love, N., Pell, B.

2005; 26 (2)

- **Linearly Bounded Reformulations of Unary Databases**

Chirkova, R., Genesereth, M., R.  
2000

- **Linearly Bounded Reformulations of Conjunctive Databases**

Chirkova, R., Genesereth, M., R.  
2000

- **Database Reformulation**

Chirkova, R., Genesereth, M., R.  
1998

- **Dervish** in *AI-based Mobile Robots: Case Studies of Successful Robot Systems*

Nourbakhsh, I., Genesereth, M., R.  
edited by Kortenkamp, D., Bonasso, P., Murphy, R.  
MIT Press.1998: 1

- **Query Planning with Disjunctive Sources**

Duschka, O., Genesereth, M., R.  
1998

- **Teaching AI Using Robots** in *AI-based Mobile Robots: Case Studies of Successful Robot Systems*

Nourbakhsh, I., Genesereth, M., R.  
edited by Kortenkamp, D., Bonasso, P., Murphy, R.  
MIT Press.1998: 1

- **Using Infomaster to Create a Housewares Virtual Catalog** *Journal of Electronic Markets, Institute for Media and Communication Management, University of St. Gallen, Switzerland*

Keller, A., M., Genesereth, M., R.  
1997; 7 (4): 41-45

- **Proceedings of the Sixth International World Wide Web Conference**

edited by Genesereth, M., R., Patterson, A.  
Elsevier.1997

- **Abstraction in Planning and Execution** *Logic Group, Stanford University Computer Science Department*

Nourbakhsh, I., Genesereth, M., R.  
1997

- **Infomaster - An Information Integration Tool**

Duschka, O., Genesereth, M., R.  
1997

- **Infomaster: An Information Integration System**

Genesereth, M., R., Keller, A., M., Duschka, O.  
1997

- **Answering Recursive Queries Using Views**

Duschka, O., Genesereth, M., R.  
1997

- **Query Planning in Infomaster**

Duschka, O., Genesereth, M., R.  
1997

- **An Agent-Based Framework for Interoperability** in *Software Agents*

Genesereth, M., R.  
edited by Bradshaw, J.

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AAAI Press.1997: 1

- **Assumptive Planning and Execution: A Simple Working Robot Architecture**, *Autonomous Robots*  
Nourbakhsh, I., Genesereth, M., R.  
1996; 3: 49-67
- **Stanford Information Network** *Logic Group, Stanford University Computer Science Department*  
Genesereth, M., R., Keller, M., A., Mueller, G., C.  
1996
- **Concurrent Engineering through Interoperable Software Agents**  
Khedro, T., Genesereth, M., R., Teicholz, P.  
1994
- **A Framework for Collaborative Distributed Facility Engineering**  
Khedro, T., Genesereth, M., R., Teicholz, P.  
1994
- **Modeling Multiagent Cooperation as Distributed Constraint Satisfaction Problem Solving**  
Khedro, T., Genesereth, M., R.  
1994
- **Solution Consistency and Convergence in Cooperative Distributed Problem Solving**  
Khedro, T., Genesereth, M., R.  
1994
- **Single Phase Agreements Among Rational Agents** in *Journal of Experimental and Theoretical Artificial Intelligence*  
Rosenschein, J., S., Genesereth, M., R.  
1993
- **From Dart to Designworld: A Chronicle of Research on Automated Engineering in The Stanford Logic Group** *Artificial Intelligence, to appear*  
Genesereth, M., R.  
1993
- **Agent-Based Technology for Facility Design Software Integration**  
Khedro, T., Teicholz, P., M., Genesereth, M., R.  
1993
- **A Formal Approach to Interdisciplinary Communication of Facility Design Information** *International Journal for Artificial Intelligence in Engineering*  
Khedro, T., Teicholz, P., M., Genesereth, M., R.  
1993
- **Collaborative Distributed Facility Engineering Through Agent-Based Software Integration**  
Khedro, T., Genesereth, M., R.  
1993
- **Time-Saving Tips for Problem Solving with Incomplete Information**  
Genesereth, M., R., Nourbakhsh, I.  
1993
- **PACT: An Experiment in Integrating Concurrent Engineering Systems** *Computer*  
Cutkosky, M., Engelmores, R., S., Fikes, R., E., Genesereth, M., R., Gruber, T., R., Mark, W., S.  
1993; 26 (1): 28-37
- **Progressive Negotiation: A Strategy for Resolving Conflicts in Cooperative Distributed Multidisciplinary Design**  
Khedro, T., Genesereth, M., R.  
1993
- **FCDA: A Framework for Collaborative Distributed Multidisciplinary Design**  
Khedro, T., Genesereth, M., R., Teicholz, P., M.

1993

- **An Agent-Based Framework for Integrated Facility Engineering** *International Journal for Engineering with Computers*  
Khedro, T., Genesereth, M., R., Teicholz, P., M.  
1993; 9: 94-107
- **An Agent-Based Approach for Integrated Design Environments**  
Khedro, T., Genesereth, M., R., Teicholz, P., M.  
1992
- **Agent-Based Concurrent Engineering**  
Genesereth, M., R., Huyn, P., Letsinger, R.  
1992
- **Partial Programs**  
Genesereth, M., R., Hsu, J., Y.  
edited by Allen, J., Fikes, R., Sandewall, E.  
1991
- **A Comparative Analysis of Some Simple Architectures for Autonomous Agents** *Architectures for Cognition*  
Genesereth, M., R.  
edited by vanLehn, K., Erlbaum, L.  
1991: 279-300
- **Designworld**  
Genesereth, M., R.  
1991
- **A Fast Algorithm for Automatic Theorem Proving with Equality** *Logic-91-2, Stanford University Computer Science Department*  
Sikka, V., Genesereth, M., R., Singh, N.  
1991
- **Knowledge Interchange Format**  
Genesereth, M., R.  
edited by Allen, J., Fikes, R., Sandewall, E.  
1991
- **Epikit: A Library of Subroutines Supporting Declarative Representation and Reasoning**  
Singh, N., P., Genesereth, M., R.  
1991
- **Discrete Systems Theory** *Logic-89-6, Stanford University Computer Science Department*  
Genesereth, M., R.  
1989
- **Deals Among Rational Agents** *in The Ecology of Computation*  
Rosenschein, J., S., Genesereth, M., R.  
edited by Huberman, B., A.  
North-Holland.1988: 117-132
- **Choosing Directions for Rules** *Journal of Automated Reasoning*  
Treitel, R., Genesereth, M., R.  
1987: 395-431
- **Introspective Fidelity** *in Metalevel Architectures and Reflection*  
Genesereth, M., R.  
edited by Maes, P.  
North-Holland.1987: 75-85
- **Logical Foundations of Artificial Intelligence**

Genesereth, M., R., Nilsson, N., J.  
Morgan-Kaufman.1987

- **The Relevance of Irrelevance**  
Subramanian, D., Genesereth, M., R.  
1987
- **Communication and Cooperation**  
Rosenschein, J., S., Genesereth, M., R.  
1987
- **Cooperation Without Communication**  
Genesereth, M., R., Ginsberg, M., L., Rosenschein, J., S.  
1986
- **Choosing Directions for Rules**  
Treitel, R., Genesereth, M., R.  
1986
- **Ordering Conjuncts in Problem Solving** *Artificial Intelligence*  
Smith, D., E., Genesereth, M., R.  
1985; 26 (2): 171-216
- **Deals Among Rational Agents**  
Rosenschein, J., S., Genesereth, M., R.  
1985
- **A Variable Supply Model for Distributing Deductions** *Journal of Parallel and Distributed Computing*  
Singh, V., Genesereth, M., R.  
1985
- **A Variable Supply Model for Distributing Deductions**  
Singh, V., Genesereth, M., R.  
1985
- **PM: A Parallel Execution Model for Backward Chaining Deductions** *Future Computing Systems*  
Singh, V., Genesereth, M., R.  
1985
- **Expressiveness and Language Choice** *Data and Knowledge Engineering*  
Mackinlay, J., Genesereth, M., R.:  
1985; 1 (1): 17-29
- **Choosing Directions for Rules** *KSL-85-46, Stanford University Heuristic Programming Project*  
Trietel, R., Genesereth, M., R.  
1985
- **Procedural Hints in the Control of Reasoning** *HPP-84-11, Stanford University Heuristic Programming Project*  
Genesereth, M., R., Smith, D., E.  
1984
- **The Use of Hierarchical Design Models in the Automated Diagnosis of Computer Systems** *in Qualitative Reasoning about Physical Systems*  
Genesereth, M., R.  
edited by Bobrow, D.  
North-Holland.1984: 411-436
- **Solving the Prisoner's Dilemma** *STAN-CS-84-1032, Stanford University Computer Science Department*  
Genesereth, M., R., Ginsberg, M., L., Rosenschein, J., S.  
1984

● **The Role of Abstractions in Understanding Analogies** *HPP-84-8, Stanford University Heuristic Programming Project*

Greiner, R., Genesereth, M., R.:  
1984

● **Expressiveness of Languages**

Mackinlay, J., Genesereth, M., R.  
1984

● **An Overview of Meta-Level Architecture**

Genesereth, M., R., Smith, D., E.  
1983

● **What's New: A Semantic Definition of Novelty**

Greiner, R., Genesereth, M., R.  
1983

● **Residue: A Deductive Approach to Design** *HPP-83-46, Stanford University Heuristic Programming Project*

Finger, J., J., Genesereth, M., R.  
1983

● **Meta-Cognition: Reasoning about Knowledge** *in Expert Systems*

Davis, R., Doyle, J., Genesereth, M., R., Goldstein, I., Lenat, D., Shrobe, H.  
edited by Hayes-Roth, F., Lenat, D., Waterman, D.  
1982: 219–240

● **The Use of Hierarchical Design Models in the Automated Diagnosis of Computer Systems**

Genesereth, M., R.  
1982

● **Artificial Intelligence Techniques in Macsyma** *in AI Handbook*

Genesereth, M., R.  
edited by Feigenbaum, E., Barr, A.  
Morgan-Kaufmann.1981: 143–149

● **The Role of Plans in Intelligent Teaching Systems** *in Intelligent Teaching Systems*

Genesereth, M., R.  
edited by Sleeman, D., Brown, J., S  
Academic Press.1981: 137–152

● **Why** *HPP-80-19, Stanford University Heuristic Programming Project*

Genesereth, M., R.  
1980

● **Metaphors and Models**

Genesereth, M., R.  
1980

● **Metaphors and Models** *HPP-80-20, Stanford University Heuristic Programming Project*

Genesereth, M., R.  
1980

● **The Use of Semantics in a Tablet-Based Program for Selecting Parts of Mathematical Expressions''**

Genesereth, M., R.  
1979

● **The Advanced Scientific Computing Environment Project**

Kulp, J., L., Genesereth, M., R., Edwards, B., E., Holloway, J., T.  
1979

- **Automated Consultation for Complex Computer Systems**  
Genesereth, M., R.  
1979
- **The Canonicity of Rule Systems**  
Genesereth, M., R.  
1979
- **The Difficulties of Using Macsyma and the Functions of User Aids**  
Genesereth, M., R.  
1977
- **A Fast Inference Algorithm for Semantic Networks** *Memo, M.I.T. Mathlab Group*  
Genesereth, M., R.  
1977