Stanford



Richard Fikes

Professor (Research) of Computer Science, Emeritus

Curriculum Vitae available Online

Bio

BIO

Richard Fikes has a long and distinguished record as an innovative leader in the development of techniques for effectively representing and using knowledge in computer systems. He is best known as co-developer of the STRIPS automatic planning system, KIF (Knowledge Interchange Format), the Ontolingua ontology representation language and Web-based ontology development environment, the OKBC (Open Knowledge Base Connectivity) API for knowledge servers, and IntelliCorp's KEE system. At Stanford, he led projects focused on developing large-scale distributed repositories of computer-interpretable knowledge, collaborative development of multi-use ontologies, enabling technology for the Semantic Web, reasoning methods applicable to large-scale knowledge bases, and knowledge-based technology for intelligence analysts. He was principal investigator of major projects for multiple Federal Government agencies including the Defense Advanced Research Projects Agency (DARPA) and the Intelligence Community's Advanced Research and Development Activity (ARDA).

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Computer Science

ADMINISTRATIVE APPOINTMENTS

- Director, Stanford's Knowledge Systems Laboratory, (1991-2006)

HONORS AND AWARDS

- Elected as a Founding Fellow, America Association for Artificial Intelligence (1990)

Publications

PUBLICATIONS

- **Knowledge Representation and Reasoning - A History of DARPA Leadership** *AI MAGAZINE*
  Fikes, R., Garvey, T.
  2020; 41 (2): 9–21
- **A proof markup language for Semantic Web services** *INFORMATION SYSTEMS*
  da Silva, P. P., McGuinness, D. L., Fikes, R.
  2006; 31 (4-5): 381-395
- **Mining revision history to assess trustworthiness of article fragments** *International Conference on Collaborative Computing*
  Zeng, H., Alhossaini, M. A., Fikes, R., McGuinness, D. L.
  IEEE.2006: 413–422
- **A Reusable Ontology for Fluents in OWL** *FORMAL ONTOLOGY IN INFORMATION SYSTEMS*
  Welty, C., Fikes, R.

2006; 150: 226-?

- **Integration of heterogeneous knowledge sources in the CALO query manager** *OTM Confederated International Conference and Workshop*
  Ambite, J. L., Chaudhri, V. K., Fikes, R., Jenkins, J., Mishra, S., Muslea, M., Uribe, T., Yang, G. Z.
  SPRINGER-VERLAG BERLIN.2005: 30–32
- **Contexts for the semantic web** *3rd International Semantic Web Conference*
  Guha, R., McCool, R., Fikes, R.
  SPRINGER-VERLAG BERLIN.2004: 32–46
- **JTP: A system architecture and component library for hybrid reasoning** *7th World Multiconference on Systemics, Cybernetics and Informatics*
  Fikes, R., Frank, G., Jenkins, J.
  INT INST INFORMATICS & SYSTEMICS.2003: 110–115
- **Including domain-specific reasoners with reusable ontologies** *International Conference on Information and Knowledge Engineering (IKE 03)*
  Fikes, R., Jenkins, J., Zhou, Q.
  C S R E A PRESS.2003: 262–268
- **DAML-ONT: An ontology language for the semantic web** *Seminar on Semantics for the Web*
  McGuinness, D., Fikes, R., Stein, L. A., Hendler, J.
  M I T PRESS.2003: 65–93
- **DAML+OIL: An ontology language for the semantic Web** *IEEE INTELLIGENT SYSTEMS*
  McGuinness, D. L., Fikes, R., Hendler, J., Stein, L. A.
  2002; 17 (5): 72-80
- **The chimaera ontology environment** *17th National Conference on Artificial Intelligence (AAAI-2000)/12th Conference on Innovative Applications of Artificial Intelligence (IAAI-2000)*
  McGuinness, D. L., Fikes, R., Rice, J., Wilder, S.
  M I T PRESS.2000: 1123–1124
- **Distributed repositories of highly expressive reusable ontologies** *IEEE INTELLIGENT SYSTEMS & THEIR APPLICATIONS*
  Fikes, R., Farquhar, A.
  1999; 14 (2): 73-79
- **Building a large knowledge base from a structured source** *IEEE INTELLIGENT SYSTEMS & THEIR APPLICATIONS*
  Frank, G., Farquhar, A., Fikes, R.
  1999; 14 (1): 47-54
- **Speeding up inferences using relevance reasoning: a formalism and algorithms** *ARTIFICIAL INTELLIGENCE*
  Levy, A. Y., Fikes, R. E., Sagiv, Y.
  1997; 97 (1-2): 83-136
- **Automated model selection for simulation based on relevance reasoning** *ARTIFICIAL INTELLIGENCE*
  Levy, A. Y., Iwasaki, Y., Fikes, R. D.
  1997; 96 (2): 351-394
- **The Ontolingua Server: A tool for collaborative ontology construction** *INTERNATIONAL JOURNAL OF HUMAN-COMPUTER STUDIES*
  Farquhar, A., Fikes, R., Rice, J.
  1997; 46 (6): 707-727
- **A Web-based compositional modeling system for sharing of physical knowledge** *15th International Joint Conference on Artificial Intelligence*
  Iwasaki, Y., Farquhar, A., Fikes, R., Rice, J.
  MORGAN KAUFMANN PUB INC.1997: 494–500
- **Ontologies: What are they, and where's the research?** *5th International Conference on Principles of Knowledge Representation and Reasoning (KR 96)*
  Fikes, R.
  MORGAN KAUFMANN PUB INC.1996: 652–655
- **CAUSAL FUNCTIONAL REPRESENTATION LANGUAGE WITH BEHAVIOR-BASED SEMANTICS** *AAAI Workshop on Reasoning about Function*

Iwasaki, Y., Vescovi, M., Fikes, R., CHANDRASEKARAN, B.
TAYLOR & FRANCIS.1995: 5–31

- **STRIPS, A RETROSPECTIVE** *ARTIFICIAL INTELLIGENCE*
  Fikes, R. E., Nilsson, N. J.
  1993; 59 (1-2): 227-232

- **PACT - AN EXPERIMENT IN INTEGRATING CONCURRENT ENGINEERING SYSTEMS** *COMPUTER*
  Cutkosky, M. R., ENGELMORE, R. S., Fikes, R. E., Genesereth, M. R., GRUBER, T. R., MARK, W. S., TENEBAUM, J. M., Weber, J. C.
  1993; 26 (1): 28-37

- **CFRL - A LANGUAGE FOR SPECIFYING THE CAUSAL FUNCTIONALITY OF ENGINEERED DEVICES** *11th National Conference on Artificial Intelligence (AAAI-93)*
  Vescovi, M., Iwasaki, Y., Fikes, R., CHANDRASEKARAN, B.
  M I T PRESS.1993: 626–633

- **HOW THINGS ARE INTENDED TO WORK - CAPTURING FUNCTIONAL KNOWLEDGE IN DEVICE DESIGN** *13th International Joint Conference on Artificial Intelligence (IJCAI-93)*
  Iwasaki, Y., Fikes, R., Vescovi, M., CHANDRASEKARAN, B.
  MORGAN KAUFMANN PUB INC.1993: 1516–1522

- **ENABLING TECHNOLOGY FOR KNOWLEDGE SHARING** *AI MAGAZINE*
  Neches, R., Fikes, R., Finin, T., Gruber, T., Patil, R., Senator, T., SWARTOUT, W. R.
  1991; 12 (3): 36-56

- **THEMES IN AUTOMATIC PROBLEM-SOLVING** *COMPUTER*
  Fikes, R. E., Hart, P. E., Raphael, B.
  1973; 6 (5): 11-17

- **LEARNING AND EXECUTING GENERALIZED ROBOT PLANS** *ARTIFICIAL INTELLIGENCE*
  Fikes, R. E., Hart, P. E., Nilsson, N. J.
  1972; 3 (2): 251-288

- **STRIPS - NEW APPROACH TO APPLICATION OF THEOREM PROVING TO PROBLEM SOLVING** *ARTIFICIAL INTELLIGENCE*
  Fikes, R. E., Nilsson, N. J.
  1971; 2 (3-4): 189-208