

Carol L. Tenny

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Natural Language Processing and Language Technology

INDUSTRY POSITIONS

- 2013 (Present) Nuance. **Senior Linguistic Engineer**, in charge of Japanese and Thai language resources.
- 2012 -2013 GOOGLE. **Consultant** for Japanese project. Modifying the Stanford Typed Dependencies Tagset for Japanese, and managing Japanese Treebank annotation.
- 2008-2013 Semantic Compaction Systems. **Japanese Language Technology Manager**. In charge of development of new Japanese version of the product. The company designs systems for disabled persons who communicate using keyboard systems for speech generation.
- 2011-2012 **Expert witness/consultant** for natural language processing and search issues in complex multi-party federal antitrust litigation, including Boolean, predictive coding and technology assisted review.
- 2011-2012 SAP. **Consultant** for Named Entity Recognition for Japanese. Created, revised, and optimized rules for named entity recognition and information extraction in Japanese.
- 2010-2011 General Motors and Automated Speech Technologies. **Discourse Annotation Project Manager**. Supervised annotators and annotation schemata in a project to create an annotated corpus of 50,000 turns of text messages.
- 2005-2008 JustSystems Evans Research, Inc. (JSERI; *formerly* Clairvoyance): **Senior Research Scientist**. Wide-ranging experience including:
- Ontologies and Semantic Annotation: developed semantic-frame ontologies for local domains for Japanese and English; developed semantic annotation schemes for Japanese sales reports; developed algorithms for discovering relations and ontologies
 - Named Entity Recognition: analyzed linguistic content for named entity recognition for English and Japanese
 - Sentiment Extraction: analyzed linguistic content for sentiment extraction; participated in development of English affect lexicon; developed techniques for extending approach to Japanese
 - General Natural Language Processing: trouble-shot finite-state-automata grammar for rule-based parser (English); analyzed part-of-speech tags for statistical parsers (English and Japanese); evaluated NLP tools such as thesaurus resources or WORDNET for use with specific purposes; evaluated existing NLP tools for various European languages
 - Experience with variety of corpus types, including: patent corpus, newswire, medical customer relations, and (Japanese) sales reports
- 2004 Queria. **Consultant**. Constructed knowledge representation/concept trees for document classification in the automotive industry, using a combination of statistical and linguistic tools.
- 2001-2003 Nippon Electric Company. **Consultant** for Japanese-English machine translation project. Troubleshoot Japanese-to-English machine-translation program. Examined error corpus to detect systematic errors or sources of errors that would be cost-effective to fix.
- 1996 and 1997 LYCOS, Inc. **Consultant**. Japanese natural language processing. Evaluated and advised on Japanese morphological parsers.

ACADEMIC POSITIONS

- 2001-2005 Adjunct Associate Professor, Philosophy Department, Carnegie Mellon University.
- 1997-2001 Visiting Scholar, University of Massachusetts at Amherst (1999-2001); Visiting Researcher, Université du Québec à Montréal. (1998-1999); Visiting Scholar, Massachusetts Institute of Technology (1997-1998).
- 1990-1997 Assistant Professor, Department of Linguistics, University of Pittsburgh.
- 1987-1990 Postdoctoral Researcher/Coordinator for Lexicon Project and Parsing Project, Center for Cognitive Science, Massachusetts Institute of Technology.

OTHER NATURAL LANGUAGE PROCESSING EXPERIENCE

- Co-taught undergraduate course in Computational Linguistics at University of Pittsburgh (with Richmond Thomason)
- Co-edited book: 1991 *Principle-Based Parsing: Computation and Psycholinguistics*. Edited by R. Berwick, S. Abney, and C. Tenny. Dordrecht: Kluwer Academic Publishers, 408 pp.
- Coordinator of MIT Parsing Seminar and Editor of Parsing Project Working Papers for Parsing Project, Department of Linguistics (1989-1990).
- Designed a context-free rule system and lexicon for parsing Japanese, which was implemented by the Athena Language Project, MIT. Grant received from Project Athena and MIT-Japan Science and Technology Program (1986).
- Researcher on project to create a Japanese-to-English translation system, responsible for design of rules to define word boundaries in Japanese, LATSEC, World Translation Center, Inc., La Jolla, CA (1980).

PATENT APPLICATIONS

- [20080295013. Method and apparatus for performing semantically informed text operations. 11-27-2008](#). David A. Evans, Yan Qu, Ilya M. Goldin, David A. Hull, Jeffrey K. Bennett, Hua Cheng Carol L. Tenny, Jesse A. Montgomery.
- [20080294427. Method and apparatus for performing a semantically informed merge operation. 11-27-2008](#). David A. Evans, Yan Qu, Ilya M. Goldin, David A. Hull, Jeffrey K. Bennett, Hua Cheng Carol L. Tenny, Jesse A. Montgomery.
- [20080294426. Method and apparatus for anchoring expressions based on an ontological model of semantic information. 11-27-2008](#). David A. Evans, Yan Qu, Ilya M. Goldin, David A. Hull, Jeffrey K. Bennett, Hua Cheng Carol L. Tenny, Jesse A. Montgomery.
- [20080294425. Method and apparatus for performing semantic update and replace operations. 11-27-2008](#). David A. Evans, Yan Qu, Ilya M. Goldin, David A. Hull, Jeffrey K. Bennett, Hua Cheng Carol L. Tenny, Jesse A. Montgomery.

OTHER ACADEMIC ACTIVITIES

- National Science Foundation Grant Recipient, SBR-9616591. Workshop on Events as Grammatical Objects from the combined perspectives of lexical semantics, logical semantics and syntax. Sponsored workshop at Linguistic Society of America 1997 Summer Institute, Cornell University. (1997).
- Japanese lexical semantics. Consultant on research projects at Massachusetts Institute of Technology: The Lexicon and Machine Translation for Japanese and English (1997-1998); Nippon Electric Company and Lexicon Project; collaborative research on verb classes in English and Japanese, for purposes of application to machine translation, with S. Miyagawa and N. Fukui (1985).
- Member Linguistic Society of America and Association for Computational Linguistics

EDUCATION

- Ph.D. (1987) Massachusetts Institute of Technology, in Linguistics.
- B.A. (1977) Oberlin College, in East Asian Studies and Geology.

LANGUAGES

- Native English.
- Near-native Japanese.
- Some knowledge French, German, Spanish.
- Rudimentary Thai.

COMPUTER PROGRAMMING

- Scripting language: Perl.

Curriculum vitae of publications available on request. References available on request.