

**Robert Frederking
Carnegie Mellon University
Language Technologies Institute
December 2006**

CURRICULUM VITAE

Biographical Data

Height 5' 11"; weight 185 lbs.; birthdate May 24, 1955; married, no children; U.S. citizenship.

Educational Record:

| | | | |
|----------------------------|---------------|-----------------------|-------|
| Carnegie Mellon University | PhD | Computer Science (AI) | 12/86 |
| Carnegie Mellon University | MS equivalent | Computer Science (AI) | 5/81 |
| Case Western Reserve Univ. | BS | Computer Engineering | 1/77 |

Thesis advisor:

Jaime Carbonell

Previous Appointments:

Senior Systems Scientist, Carnegie Mellon University

Language Technologies Institute: 6/97-present

In speech-to-speech translation: PI of NSF-funded NineOneOne SGER project: Exploratory Research on Recognizing Non-English Speech for Emergency Triage in Disaster Response. CMU PI on Tongues project (contract with Lockheed Martin); also a co-PI on Babylon project, and a named senior researcher on Nespole and MegaRADD-MT projects. In Translingual IR: co-PI on MuchMore project; also a named senior researcher on Tracat and KDI/Universal Access projects. Chair of LTI graduate programs, and part-time instructor in LTI graduate courses.

Systems Scientist, Carnegie Mellon University

Center for Machine Translation/Language Technologies Institute: 12/91-6/97

Co-Principal Investigator on the DIPLOMAT rapid-deployment speech translation project. Also served as graduate student advisor and part-time instructor for LTI graduate program. Also took an active role in Translingual Information Retrieval initiative. Previously was co-Principal Investigator and "System Integrator" for PANGLOSS project.

Project Scientist, Carnegie Mellon University

Robotics Institute

Center for Integrated Manufacturing Decision Systems (CIMDS): 8/89-11/91

Worked on the CORTES and CARMEMCO projects with Mark Fox.

Research Engineer, Siemens AG

Corporate Research and Technology

Corporate Laboratories for Information Technology

Munich, Federal Republic of Germany: 12/86-6/89

Applied research and development of German natural language processing (NLP) systems, user interfaces.

Research assistant, Carnegie Mellon University

Computer Science Department: 9/79-12/86

Carried out directed research on NLP.

Design engineer, Case Western Reserve University

A.R. Jennings Computation Center

CWRUnet Project: 6/76-9/79

Designed and implemented packet-switched computer network communications software.

PUBLICATIONS

• Books:

Frederking, R.E. *Integrated Natural Language Dialogue: A Computational Model*. Kluwer Academic Publishers, Boston, 1988. Originally published as PhD dissertation, December 1986.

• Refereed Journal Papers:

Frederking, R., Rudnicky, A., Hogan, C., and Lenzo, K. Interactive Speech Translation in the Diplomat Project. *Machine Translation Journal*, Special issue on Spoken Language Translation. 2000.

Yang, Y., Carbonell, J.G., Brown, R.D., and Frederking, R.E. Translingual Information Retrieval: learning from bilingual corpora. *Artificial Intelligence*, 1998.

Yang, Y., Carbonell, J.G., Brown, R.D., and Frederking, R.E. Bilingual Corpus-Based Approaches to Translingual Information Retrieval. *Applied Artificial Intelligence Journal*, January 1999. Special Issue: Best of MULSAIC-97. Originally included in Proceedings of MULSAIC'97 as Yang, Y., Brown, R.D., Frederking, R.E., Carbonell, J.G., Geng, Y., and Lee, D. Bilingual-corpus Based Approaches to Translingual Information Retrieval. August 1997.

Yang, Y., J.G. Carbonell, R. Brown, and R.E. Frederking. Translingual information retrieval: learning from bilingual corpora. *Artificial Intelligence Journal*. Special issue: Best of IJCAI-97, vol. 103, 1998. Originally included in Proceedings of the Fifteenth International Joint Conference on Artificial Intelligence (IJCAI-97) as Carbonell, Jaime G., Yang, Yiming, Frederking, Robert E., Brown, Ralf D., Geng, Yibing, Lee, Danny. Translingual Information Retrieval: A Comparative Evaluation. Nagoya, Japan, 1997. Best paper award.

• Refereed Conference/Workshop Papers:

Alison Alvarez, Lori Levin, Robert Frederking, Simon Fung, Donna Gates and Jeff Good. The MILE Corpus for Less Commonly Taught Languages. Proceedings of the Human Language Technology Conference of the North American Chapter of the Association for Computational Linguistics (HLT-NAACL-2006), New York, June 2006. (Poster.)

Alison Alvarez, Lori Levin, Robert Frederking, Erik Peterson, and Simon Fung. Tools for Elicitation Corpus Creation. Proceedings of the 2006 E-MELD Workshop on Digital Language Documentation: Tools and Standards: The State of the Art. June 2006.

Alison Alvarez, Lori Levin, Robert Frederking, Jeff Good, and Erik Peterson. Semi-Automated Elicitation Corpus Generation. Proceedings of MT Summit X, Phuket, Thailand, September 2005. (Poster.)

Nyberg, E., T. Mitamura, R. Frederking, V. Pedro, M. Bilotti, A. Schlaikjer and K. Hannan (2005). "Extending the JAVELIN QA System with Domain Semantics", in Proceedings of AAI-2005 (Workshop on Question Answering in Restricted Domains). 2005.

Shyamsundar Jayaraman, Alon Lavie, Robert Frederking, and Ralf Brown. Multi-Engine Machine Translation Guided by Explicit Word Matching. In Proceedings of the 10th Annual Conference of the European Association for Machine Translation (EAMT-2005). Budapest, Hungary. May 2005.

A. Waibel, A. Badran, A. Black, R. Frederking, D. Gates, A. Lavie, L. Levin, K. Lenzo, L. Mayfield Tomokiyo, J. Reichert, T. Schultz, D. Wallace, M. Woszczyna, and J. Zhang.

Speechalator: two-way speech-to-speech translation on a consumer PDA. In Proceedings of the European Conference on Speech Communication and Technology, 2003.

Alex Waibel, Ahmed Badran, Alan W. Black, Robert E. Frederking, Donna Gates, Alon Lavie, Lori S. Levin, Kevin Lenzo, Laura Mayfield Tomokiyo, Juergen Reichert, Tanja Schultz, Dorcas Wallace, Monika Woszczyna, Jing Zhang. Speechalator: Two-Way Speech-to-Speech Translation in Your Hand. In Proceedings of HLT-NAACL 2003. (Demo.)

Eric Nyberg, Robert E. Frederking: JAVELIN: A Flexible, Planner-Based Architecture for Question Answering. In Proceedings of HLT-NAACL 2003. (Demo.)

Teruko Mitamura, Eric Nyberg, and Robert Frederking. Teaching Machine Translation in a Graduate Language Technologies Program. Machine Translation Summit IX, Workshop on Teaching Translation Technologies and Tools. New Orleans, September 2003.

Black, A., Brown, R., Frederking, R., Lenzo, K., Moody, J., Rudnicky, A., Singh, R., and Steinbrecher, E. Rapid Development of Speech-to-Speech Translation Systems. In Proceedings of ICSLP-2002, Denver, 2002.

Alan W Black, Ralf D. Brown, Robert Frederking, Rita Singh, John Moody, and Eric Steinbrecher. Tongues: Rapid Development Of A Speech-To-Speech Translation System. Proceedings of HLT-2002. San Diego, 2002. (Poster.)

Robert E Frederking, Alan W Black, Ralf D Brown, Alexander Rudnicky, John Moody, and Eric Steinbrecher. Speech Translation on a Tight Budget Without Enough Data. ACL02 Workshop on Speech-to-Speech Translation. Philadelphia, July 2002.

Robert Frederking, Eric H Nyberg, Teruko Mitamura, and Jaime G Carbonell. Design and Evolution of a Language Technologies Curriculum. ACL02 Workshop on Effective Tools and Methodologies for Teaching NLP and CL. Philadelphia, July 2002.

Alon Lavie, Lori S. Levin, Robert E. Frederking, Fabio Pianesi. The NESPOLE! Speech-to-Speech Translation System. AMTA-2002. (System description.)

Frederking, R.E., Black, A.W., Brown, R.D., Moody, J., and Steinbrecher, E. Field Testing the Tongues Speech-to-Speech Machine Translation System. In Proceedings of the Third International Conference on Language Resources and Evaluation (LREC-2002). Las Palmas, Gran Canaria, Spain. pp. 160-164. May 2002.

Hogan, C. and Frederking, R. WebDIPLOMAT: A Web-Based Interactive Machine Translation System. Proceedings of COLING-2000, Saarbruecken, Germany, August 2000.

Frederking, R., Hogan, C., and Rudnicky, A. A New Approach to the Translating Telephone. In Proceedings of MT Summit VII, Singapore, September 1999. (Poster.)

Hogan, C. and Frederking, R.E. An Evaluation of the Multi-engine MT Architecture. In Proceedings of the Third Conference of the Association for Machine Translation in the Americas (AMTA '98). October 1998.

Carbonell, J., Brown, R., and Frederking, R. Generalized Example-Based MT in A Multi-Engine Framework. Proceedings of JSPS-HITACHI Workshop on New Challenges in Natural Language Processing and its Application, Tokyo, May 1998.

Frederking, R. Two Key Issues for Translingual Information Management. Workshop on Multi-Lingual Information Management at the first Language Resources and Evaluation Conference (LREC-98), Granada, Spain, May 1998.

Eskenazi, M., Hogan, C., Allen, J., and Frederking, R. Issues in Database Design: Recording and Processing Speech from New Populations. In Proceedings of the First International Conference on Language Resources and Evaluation (LREC-98). Granada, Spain. May 1998.

Frederking, R.E., Brown, R.D., and Hogan, C. The DIPLOMAT Rapid-Deployment Speech

MT System. In Proceedings of MT Summit VI, San Diego. October 1997. System presentation.

Eskenazi, M., Hogan, C., Allen, J., Frederking, R. Issues in database creation: Recording new populations, faster and better labelling, In Proceedings of Eurospeech'97, Rhodes, Greece, 1997.

Frederking, R., Rudnicky, A., and Hogan, C. Interactive Speech Translation in the DIPLOMAT Project. Presented at the Spoken Language Translation workshop at the 35th Meeting of the Association for Computational Linguistics, ACL-97. Madrid, Spain. 1997.

Frederking, R., Mitamura, T., Nyberg, E., Carbonell, J. Translingual Information Access. Presented at the Cross-Language Text and Speech Retrieval workshop at the AAAI-97 Spring Symposium Series, Stanford, 1997.

Frederking, Robert and Brown, Ralf. The Pangloss-Lite Machine Translation System. In Proceedings of the Conference of the Association for Machine Translation in the Americas (AMTA-96). System Demonstration. Montreal. 1996.

Frederking, R.E. Grice's Maxims: "Do the Right Thing". Presented at the Computational Implicature workshop at the AAAI-96 Spring Symposium Series, Stanford, 1996.

Brown, R., and Frederking, R. Applying Statistical English Language Modeling to Symbolic Machine Translation. In Proceedings of the Sixth International Conference on Theoretical and Methodological Issues in Machine Translation (TMI-95), Leuven, Belgium, 1995.

Frederking, R. and Nirenburg, S. Three Heads are Better than One. In Proceedings of the fourth Conference on Applied Natural Language Processing, ANLP-94, Stuttgart, Germany, 1994.

Frederking, R.E. Statistical Language Models for Symbolic MT. Presented at the Language Engineering on the Information Highway workshop, Santorini, Greece, September 1994.

Frederking, R., Nirenburg, S., Farwell, D., Helmreich, S., Hovy, E., Knight, K., Beale, S., Domashnev, C., Attardo, D., Grannes, D., Brown, R. Integrating Translations from Multiple Sources within the Pangloss Mark III Machine Translation. In Proceedings of the first conference of the Association for Machine Translation in the Americas, AMTA-94, Columbia, MD, 1994.

Nirenburg, S. and Frederking, R. Toward Multi-Engine Machine Translation. In Proceedings of the DARPA Human Language Technology Workshop, Princeton, NJ, 1994.

Frederking, R., A. Cohen, P. Cousseau, D. Grannes and S. Nirenburg. The Pangloss Mark I MAT System. Proceedings of EACL-93, Utrecht, The Netherlands, April, 1993. (Poster.)

Frederking, R., Grannes, D., Cousseau, P., and Nirenburg, S. The Integration of MT and MAT. In Proceedings of the first Conference of the Pacific Association for Computational Linguistics (PACLING). Vancouver, Canada, April 1993.

Frederking, R., Grannes, D., Cousseau, P., and Nirenburg, S. An MAT Tool and Its Effectiveness. In Proceedings of the DARPA Human Language Technology Workshop, Princeton, NJ, 1993.

Frederking, R.E. and Muscettola, N. Temporal Planning for Transportation Planning and Scheduling. Proceedings of 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992.

Frederking, R.E. Interactive Experiment Planning to Control Knowledge-Based Simulation. Proceedings of the Winter Simulation Conference, December, 1991.

Frederking, R.E., and Chase, L.L. Planning in a CIM Environment: Research Towards a Constraint-Directed Planner. Proceedings of the Fourth International Conference on Expert Systems in Production and Operations Management, May, 1990.

Frederking, R., and Gehrke, M. Resolving Anaphoric References in a DRT-based Dialogue System. Proceedings of Wiener Workshop Wissensbasierte Sprachverarbeitung (Vienna Workshop on Knowledge-based Language Processing), Informatik-Fachberichte 176, Springer-Verlag, August 1988.

Frederking, R.E. An Approach to Natural Language Understanding in Rule-based Systems. Proceedings of the First Annual Workshop on Theoretical Issues in Conceptual Information Processing, TICIP-1, March 1984.

Frederking, R.E. A Rule-based Conversation Participant. Proceedings of the 19th Meeting of the Association for Computational Linguistics, ACL-81, 1981.

• **UnRefereed Conference/Workshop Papers; service as Editor:**

Lori Levin, Jeff Good, Alison Alvarez, and Robert Frederking. Automatic Learning of Grammatical Encoding. In "Architectures, Rules, and Preferences: A Festschrift for Joan Bresnan". Jane Grimshaw, Joan Maling, Chris Manning, Jane Simpson, and Annie Zaenen (eds.) CSLI Publications. 2005.

Robert E. Frederking, Kathryn Taylor (eds.). Machine Translation: From Real Users to Research. Proceedings of 6th Conference of the Association for Machine Translation in the Americas (AMTA-2004), Washington DC, September 2004. Publisher: Springer-Verlag Heidelberg, 2004.

Robert Frederking, Eduard Hovy, and Nancy Ide (eds.). Special Issue on Multilingual Information Management. *Computers and the Humanities*, vol.35, no. 4. Kluwer Academic Publishers. November 2001.

Eduard Hovy, Nancy Ide, Robert Frederking, Joseph Mariani, and Antonio Zampolli (eds.). Multilingual Information Management: Current Levels and Future Abilities. *Linguistica Computazionale*, Volume XIV-XV, 1999. Publisher: Insituti Editoriali e Poligrafici Internazionali, Pisa, Italy, 2001.

Hovy, E., N. Ide, R. Frederking (eds.). Proceedings of the Workshop on Multilingual Information Management at the 17th Intl. Conference on Computational Linguistics, Montreal, Canada, August 1998. (A more recent version appears on the WWW as: Hovy, E., N. Ide, R. Frederking, J. Mariani, A. Zampolli (eds.). 1998. Multilingual Information Management: Current Levels and Future Abilities. Study commissioned by NSF, result of workshops in Granada, Spain, and Montreal, Canada. <http://www.cs.cmu.edu/~ref/mlim/>.)

Pangloss Spanish System Description and Applying Statistical English Language Modelling to Symbolic MT presentations for PANGLOSS project at November 1994 ARPA MT Workshop, Vienna, Virginia.

Chart Manager and Lessons Learned presentations for PANGLOSS project at March 1994 ARPA MT Workshop, Vienna, Virginia.

System Integration, Glossary-Based Machine Translation, and Lessons Learned presentations for PANGLOSS project at 1993 ARPA MT Workshop, Carnegie Mellon University.

Proposed System Integration presentation for PANGLOSS project at February 1992 ARPA MT Workshop, IBM Thomas J. Watson Research Center.

• **Technical Reports:**

Nirenburg, S., (ed.). 1995. The Pangloss Mark III Machine Translation System. Joint Technical Report, Computing Research Laboratory (New Mexico State University), Center for Machine Translation (Carnegie Mellon University), Information Sciences Institute (University of Southern California). Issued as CMU technical report CMU-CMT-95-145.

Frederking, R.E. Understanding Dialogue Ellipsis. Technical Report CMU-CMT-93-142, Carnegie Mellon University, 1993.

Frederking, R., and Gehrke, M. Resolving Anaphoric References in a DRT-based Dialogue System: Part 2: Focus and Taxonomic Inference. WISBER technical report B17. University of Saarbruecken, FRG. December 1987.

Frederking, R.E. Syntax and Semantics. Technical Report CMU-CS-85-133, Carnegie Mellon University, 1985.

- **Other Publications:**

Cohen, A., Cousseau, P., Frederking, R., Grannes, D., Khanna, S., McNeilly, C., Nirenburg, S., Shell, P., Waeltermann, D. Translator's WorkStation User Document, Center for Machine Translation, Carnegie Mellon University, 1993.

Frederking, R.E. (ed.), Guide to Living in Pittsburgh, fourth edition. Carnegie Mellon University Computer Science Department, 1982.

- **Software/System Artifacts:**

Built, programmed, field-tested prototype portable underwater Dolphin Communication System, 2004.

DIPLOMAT user interface design (with Alex Rudnicky), 1996.

System integration of PANGLOSS machine translation system, 1991-1994.

CORTES graphical planner, 1989-1991.

German natural language generator (NLG), 1988-1989.

Major components of WISBER German natural language interface (NLI), 1987-1988.

Psli3 production system NLI, 1983-1986.

KnowledgeCraft/LanguageCraft system integration, 1986.

LanguageCraft NLG and ellipsis resolution mechanism, 1984-1985.

EVIDENCE OF EXTERNAL REPUTATION

Awards and Honors:

- The Allen Newell Award for Research Excellence, awarded by the School of Computer Science at Carnegie Mellon, for work in Speech-Speech Machine Translation. 2002.
- Semi-finalist in 1999 Discover Magazine Awards for Technological Innovation, for work on Diplomat system.
- IJCAI-97 Distinguished Paper Award, Nagoya, Japan, August 1997, for: Carbonell, Jaime G., Yang, Yiming, Frederking, Robert E., Brown, Ralf D., Geng, Yibing, Lee, Danny. Translingual Information Retrieval: A Comparative Evaluation. In Proceedings of the Fifteenth International Joint Conference on Artificial Intelligence (IJCAI-97). Nagoya, Japan, 1997.

Officer of International Organizations:

- Elected Vice-President of Association for Machine Translation in the Americas (AMTA), Sept. 2004. Re-elected August 2006.
- Appointed to Executive Board of North American Chapter of the Association for Computational Linguistics (NAACL), 2004. Served on NAACL Nominating Committee, 2006.
- Elected to board of Association for Machine Translation in the Americas (AMTA), 2000-2001 term. Previously nominated to AMTA board, 1998.

Invited Colloquia and Visits:

- Visiting Researcher at the Center for Scientific and Technological Research (ITC-irst) in Trento, Italy, July 2001.
- "Language Technologies: Speech Recognition, Information Retrieval, Machine Translation, and Voice Synthesis", Lockheed Martin, Owego, NY. October 2000.
- "The DIPLOMAT, Lingwear, and Tongues projects", DoD Language Working Group, Sylvia Morales (chair), at the Office of Special Technology, Ft. Washington, MD. December 1999.
- "DIPLOMAT: Rapid-Deployment Speech Translation" George C. Marshall European Center for Security Studies, Garmisch, Germany. April 1998.
- "DIPLOMAT: Rapid-Deployment Speech Translation" NATO Supreme Headquarters Allied Powers Europe (SHAPE), Mons, Belgium. April 1998.
- "Translingual Information Access" and "Machine Translation Projects at CMU/LTI", Systems Engineering Research Institute (SERI), Daejeon, South Korea, August 1997.
- Visiting Researcher at German Research Center for AI (DFKI), Saarbruecken, Germany, July 1997.
- "Translingual Information Access", German Research Center for AI (DFKI), Saarbruecken, Germany, July 1997.

Invitations to Workshops and Panels:

- Panel: MT methodologies: what works, what doesn't, and what's the right mix? At the Conference of the Association for Machine Translation in the Americas (AMTA-2002). Tiburon, CA. Steve Richardson, moderator. 2002.
- Workshop: Presented "The Future of Machine Translation to 2010" at Federal Broadcast Information Service (FBIS) "Global Futures Project". September 2000.

- Workshop: Presented “Current Research in Translating Minority Languages” at National Institutes of Health (NIH) workshop on “Inclusion of Language Minority Populations in National Studies: Challenges, Opportunities and Best Practices”. July 2000.
- Workshop: Presented “Who are our users?” at Workshop on Interactive Searching in Foreign-Language Collections (Douglas Oard, chair), as part of 17th Annual Human-Computer Interaction Laboratory Symposium & Open House, University of Maryland College Park. June 2000.
- Workshop: Presented “Text and Speech Translation” at the RAND Invitational Conference on “The Global Course of the Information Revolution: Technical Trends,” RAND/National Intelligence Council, Pittsburgh, May 2000.
- Panel: Presented language technologies point of view for panel on “Global Networks” (of collaboration) at the “Global Intersections” art/technology symposium, The Kitchen, New York. “The Kitchen” is an important avant-garde performing arts center. May 2000.
- Panel: Presented overview of speech translation research and LTI’s Janus and Diplomat/Tongues projects for panel on “Translation” at SpeechTEK-99, New York. Also gave Manny Rayner’s (NASA) presentation for him. Roger Matus (Dragon), moderator. Other panelists: Mark Bautil (L&H), Tim Hildreth (Transparent Language). November 1999.
- Panel: Chaired session and moderated panel on “Handling Multilingual Speech, Document Images, and Video OCR” at joint ACM Digital Libraries/ACM SIGIR Workshop on Multilingual Information Discovery and Access (MIDAS). Panelists: Alexander Hauptmann (CMU), Henry Baird (Xerox PARC), George Doddington (SRI and NIST), Peter Schaeuble (Eurospider). Douglas Oard, chair. August 1999.
- Workshop: Presented a “strawman” position on the overall design of the TIDES funding program, DARPA TIDES Planning Workshop, Leesburg, VA. Gary Strong, chair. July 1999.
- Panel: Presented “MT for the Web” at the panel called “Language on Trial”, at Eighth International World Wide Web Conference (WWW8), Toronto, Canada. Antonio Sanfilippo (EC), moderator. Other panelists: Gary Strong (NSF), Hans Uszkoreit (DFKI), Olivero Stock (IRST), Giovanni Varile (EC), David Israel (SRI), Rose Lockwood (Equipe). May 1999. Also published in Computer Networks: The International Journal of Computer and Telecommunications Networking Volume 31 , Issue 11-16 (May 1999). Publisher: Elsevier North-Holland, Inc.
- Workshop: Gave presentation on my NSF-sponsored workshop in Granada, Spain, to session on “Translingual Information Management” (Gary Strong, chair) at the Conference on New Vistas in Transatlantic Science and Technology Cooperation, National Academy of Sciences, Washington, DC. This was organized by the National Research Council (NRC) to begin implementing the treaty “U.S.-European Union Science and Technology Agreement”, signed in December 1997, which led to the NSF/EU joint research program sponsoring LTI’s MuchMore and Nespole projects. June 1998.
- Workshop: Gave presentations on “Cross-Lingual and Cross-Modal Information Retrieval” and “Speech Translation” at NSF-sponsored Workshop on Multi-Lingual Information Management at the first Language Resources and Evaluation Conference (LREC-98), Granada, Spain, May 1998.
- Workshop: Frederking, R., Carbonell, J., Yang, Y., Brown, R. Translingual Information Access on the World Wide Web. Presented at the Future of AI and the Internet workshop at the Fifteenth International Joint Conference on Artificial Intelligence (IJCAI-97). Alex Franz, chair. Nagoya, Japan, August 1997.
- Panel: Frederking, R., Mitamura, T., Nyberg, E., Carbonell, J. Translingual Information Management. Presented at the October 1996 DARPA ITO Principal Investigators meeting. Invited to be one of three panel members for Working Group Session 12 on Translingual Information Management. Ron Larsen, chair. Dallas, October 1996.

- Panel: Next Steps in MT Research, at the Conference of the Association for Machine Translation in the Americas (AMTA-96). Montreal, Canada. Lynn Carlson, moderator. Other panelists: David Farwell, John O'Hara, Dekai Wu, Jackie Murgida, Pierre Isabelle. 1996.

EXTERNAL PROFESSIONAL ACTIVITIES

Membership in Professional Organizations:

- Member of AMTA, ACL/NAACL, Sigma Xi, Tau Beta Pi, Theta Tau professional engineering fraternity (former chapter president).
- Member of Computer Professionals for Social Responsibility (CPSR). Charter member of Pittsburgh chapter.

Professional Service outside the University:

- Member of Organizing Committee for the Ninth International Conference on Spoken Language Processing (Interspeech 2006 -- ICSLP). Pittsburgh, 2006. Responsible for Registration and Webmaster.
- Co-chair of First International Medical Speech Translation workshop at the Human Language Technology Conference of the North American Chapter of the Association for Computational Linguistics (HLT-NAACL-2006), New York, June 2006.
- Program co-chair for the Conference of the Association for Machine Translation in the Americas (AMTA-2004). Washington, D.C., 2004.
- Demo co-chair for Human Language Technology Conference of the North American Chapter of the Association for Computational Linguistics (HLT-NAACL-2003), Edmonton, Canada, 2003.
- Member of Program Committee for MT Summit IX, New Orleans, September 2003.
- Tutorial/Workshop chair for the Conference of the Association for Machine Translation in the Americas (AMTA-2002). Tiburon, CA, 2002. Served also as webmaster for conference.
- Local organizing committee for the Second Meeting of the North American Chapter of the Association for Computational Linguistics (NAACL-2001), Pittsburgh, 2000-2001. Served also as webmaster for conference.
- Program committee of Workshop on Embedded MT Systems at NAACL/ANLP2000, Seattle, 2000.
- Steering committee of NSF-sponsored Workshop on Multi-Lingual Information Management at COLING-98, Montreal, Canada, 1998.
- Steering committee of NSF-sponsored Workshop on Multi-Lingual Information Management at the first Language Resources and Evaluation Conference (LREC-98), Granada, Spain, 1998.

Journal, Conference and Book Reviewing:

- Reviewer for numerous conferences, including: ICSLP-98, IJCAI-2001, AMTA-2002, AMTA-2004, LREC-2004, ICSLP-2006, AMTA-2006, HLT-NAACL-2007.
- Reviewer for Swiss National Science Foundation, 2003-2006.
- Reviewer for IEEE Computer journal, August 2000-2002.
- Reviewer for book proposal for MIT Press (1999).

- Reviewer for Computers and the Humanities Journal, special issue on multilingual information access and management (1999).
- Reviewer for National Science Foundation Proposal Review Panel (1999).
- Reviewer for Computational Linguistics journal (1996).
- Reviewer for the special issue of International Journal of Computational Intelligence on "Context in Natural Language Processing" (May 1996).
- Reviewer of National Science Foundation research proposals in Knowledge and Database Systems (1988-1989).
- Book reviewer for Computers and Translation journal (1989).

Consulting:

- Consulted for **Psilos Group Partners** (venture capitalists), 10/99: expert evaluation of the technical capabilities of an MT start-up that they were considering investing in.
- Consulted for **Carnegie Group Inc.**, 3/84-9/86: LanguageCraft English natural language generator and ellipsis resolution mechanism, Tess porting and demo development, and KnowledgeCraft/LanguageCraft integration, porting, and demo development, and as instructor in commercial AI course.

Other:

- Taught "FaithTech" computer literacy classes to senior citizens, 2003.
- Interview: BBC News World Service, "Go Digital" radio program, August 26, 2002. Also as an article on the BBC website dated August 28, 2002.
- Interview: New York Times. "What's Next: Roaming the World With a Translator in Your Pocket", Anne Eisenberg. June 14, 2001.
- Interview: Wired magazine. May 2000 cover story, "Talking to Strangers", Steve Silberman. Featured along with other LTI faculty.
- Interview: IEEE Intelligent Systems, July/August 1998, "Focus: Global communication through online translation", Crystal Chweh.
- Interview: National Public Radio (NPR), 12 February 1998, "Online Translation", Robert Siegel.
- Public lecture: The Origins of the Computer Professionals for Social Responsibility (CPSR). The Unitarian Universalist Church of the North Hills, 5/17/92
- Public lecture: The Origins of the Computer Professionals for Social Responsibility (CPSR). The Unitarian Universalist Church of the South Hills, 4/14/91
- Tutor for East End Cooperative Ministries in junior-high science and mathematics (1990-1991).
- Co-wrote and co-produced (with Gregg Podnar) educational film on computers, funded by ACM, entitled "Computers in Your Life", shown to 500,000 people by the ACM. 1980.

CONTRIBUTIONS TO EDUCATION

Serving as chair of the LTI graduate programs (PhD and MS), which subsumes my earlier role as LTI graduate student curriculum advisor. This position includes meeting with students individually and collectively, tracking their individual academic progress, working with the SCS PhD and MS program chair to maintain consistency across SCS, working with other faculty to plan curriculum changes and prevent and resolve program inconsistencies, chairing monthly LTI faculty meetings, maintaining up-to-date program descriptions and course listings on LTI Web site, and anything else necessary to keep the program successful. In addition, provided similar but separate services for the Philosophy Department while there were still Computational Linguistics graduate students; they were formally integrated into the LTI in 1998.

Taught Computer Science core course in Pennsylvania Governor's School for the Sciences, each July, 2003-present. This is a state-wide program hosted by Carnegie Mellon for "especially talented Pennsylvania high school students".

Developed and presented Machine Translation section of undergraduate survey course in Fall 2001, 11-682/15-482 "Human Language Technologies".

Developed and presented survey mini-course (with Alan W Black) for eCommerce program in Spring 2001, 20-865 "Language Technologies in eCommerce".

Developed and presented five lectures for the new LTI graduate course in Algorithms for Natural Language Processing (11-711), on Search, Lexical Analysis, and Ambiguity Resolution, Fall 1996.

Developed and presented five lectures for the new LTI graduate course in Machine Translation (11-731), on several specific MT techniques, Domain Analysis and System Specification, and Workflow and Human Factors, Spring 1997. Later took over responsibility for one lecture on Commercial MT systems.

Presented my 11-711 and 11-731 lectures again each year since Fall 1996. (11-731 was not offered in Spring 1999.) Also occasionally presented other 11-711 lectures when regular instructor was unavailable.

Developed and presented lecture for SCS course: Machine Translation, Manuela Veloso course instructor, Carnegie Mellon University, November 1995.

Developed and presented lecture for SCS course: System Integration, Jaime Carbonell course instructor, Carnegie Mellon University, April 1993.

Developed and presented lecture for SCS course: Pangloss as a Real Knowledge-Based System, Jaime Carbonell course instructor, Carnegie Mellon University, April 1992.

STUDENT ADVISING

Thesis Committee Service:

- **Stephen Beale, LTI PhD**
 - *HUNTER-GATHERER: Applying Constraint Satisfaction, Branch-and-Bound and Solution Synthesis to Computational Semantics*, May 2, 1997
- **Christopher Hogan, LTI PhD**
 - *Discovering Morphology from Bilingual Corpora*. Not completed.
- **Vasco Pedro, LTI PhD**
 - *Federated Ontology Search*. Expected graduation: December 2007.

Masters Students Supervised:

- Udhyakumar Nallasamy, LTI MS, 2006
- Richard Wang, LTI MS, 2003
- Ular Bardak, LTI MS, 2003
- Ying (Joy) Zhang, LTI MS, 2002
- Alice Oh, LTI MS, 2000
- Paul Kennedy, LTI MS, 1999
- Photina Jang, LTI MS, 1998
- Daniela Lonsdale, LTI MS, not completed
- Naomi Waibel, LTI MS, 1997

Masters Thesis Committees:

- Scott Judy, 2004.
- Curtis Huttenhower, 2003.
- Ananlada Chotimongkol, 2003.

Undergraduate Advising:

- Wuttipong Lertaneksin, senior thesis, *Thai/English machine translation*, expected 1998
- Robert Igo, undergraduate Independent Study, *Incorporating German morphological analysis into the Translator's WorkStation (TWS)*, 1993-1994

SERVICE AND COMMITTEE WORK WITHIN THE UNIVERSITY

Outside School of Computer Science

- Member of University Library advisory committee, 2002-present.
- Search committee for new faculty member in Linguistics, Philosophy Department, 1997/1998.
- CPSR representative on panel on “Technologies for communication and information”, Pugwash Technologies of Peace conference, September 1997.

School of Computer Science

- Editor of 2005 LTI Advisory Board Briefing Book (major internal document).
- SCS College Council member, 2004-present. College Council advises the Dean on school governance.
- LTI Representative to Faculty Senate, 2001-2003.
- Publicity co-chair (Webmaster) for NAACL-2001 conference held at Carnegie Mellon June 2001.
- Chair of LTI graduate programs, 1998-present. Earlier, LTI graduate student advisor.
- SCS Patent Disclosure Committee, 1996-2000.
- Various other ad hoc duties and committees, e.g., writing LTI Departmental Handbook, Microsoft Graduate Fellowship evaluation committee (1998-present), SCS professional programs issues, CMT/LTI 10th anniversary symposium, 1998 Commencement Marshal, 2005 LTI curriculum committee, “exec officer” to prepare for 1/06 LTI Advisory Board, etc.
- Vice-President of the SCS “DecFive” social organization.
- As graduate student, first editor of “Guide to Living in Pittsburgh” after Brian Reid.