Alon Lavie

Language Technologies Institute (LTI)
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213-3890
Phone: (412) 268-5655 Fax: (412) 268-6298
Homepage: http://www.cs.cmu.edu/~alavie Email: alavie@cs.cmu.edu

EDUCATION:

5/96 Carnegie Mellon University PhD Computer Science
5/93 Carnegie Mellon University MS Computer Science
5/87 Technion - Israel Inst. of Tech. BS Computer Science

POSITIONS HELD

9/95-present Carnegie Mellon University, LTI Research Scientist (9/96-present), Post-doctoral Fellow (9/95-9/96): co-PI of Nespole! project (speech-to-speech translation of European languages, NSF), co-PI of LingWear project (DARPA TIDES), co-PI of NICE project (machine translation between Spanish and native languages of Latin America, DARPA), co-director of the JANUS/C-STAR speech translation project. Primary responsibilities include overseeing the development of the machine translation components in these projects and the integration of linguistic knowledge sources into the systems. With a particular area of expertise in parsing, spearhead research on robust language analysis using a combination of symbolic and statistical approaches. Other academic responsibilities include the annual teaching of a graduate level course on Algorithms for NLP and occasional graduate-level seminars, advising two current PhD students, three Master students (one current, two past), committee member on several PhD and MS dissertations, and serving as a member of the graduate program admissions committee. Member of ACL, SIGParse (ACL SIG on parsing) and C-STAR (Consortium for Advanced Speech Translation Research). Local Arrangements chair for NAACL-2001, program committee member for IWPT-1997, ACL-1999 and IWPT-2000, and reviewer for a variety of professional journals and conference publications.

9/89-9/95 Carnegie Mellon University, Computer Science Department, Research and Teaching Assistant. PhD graduate student in the CS department, under the advisement of Prof. Masaru Tomita. Conducted research on parsing algorithms with various researchers in the department, culminating in several refereed publications. For PhD dissertation, developed the GLR* parser, a robust parser designed to process input contaminated with disfluencies and unparsable words or segments. Adapted the GLR* parser and integrated it into the JANUS speech translation system, and became involved in the development of other aspects of the system and project. Was teaching assistant for Prof Tom Mitchell for an undergraduate level course on AI (Spring 1992), and for Prof. Steve Brookes for an undergraduate level course on Programming Languages (Spring 1991).

12/88-9/89 IBM, Israel Research Center, Research Fellow. Member of the NLP research group. Conducted research on development of an efficient morphological analyzer for the Hebrew language, and developed a prototype morphological analyzer. Involved in research on statistical language modeling for Machine Translation.

10/86-12/88 Technion, Israel., Teaching Assistant. Graduate student at the Computer Science Department. Conducted Master's thesis research on morphological analysis of Hebrew under the advisement of Prof. Uzzi Ornan and Prof. Alon Itai. Was teaching assistant for several undergraduate level courses, including: Introduction to NLP, Theory of Computation and Discrete Math.

FIVE MOST RELEVANT PUBLICATIONS:

[1] L. Levin, A. Lavie, M. Woszczyna, D. Gates, M. Gavalda, D. Koll, A. Waibel, "The JANUS-III Translation System: Speech-to-speech Translation in Multiple Domains", to appear in Machine Translation Journal (Special Issue on Spoken Language Translation), 2000.

[2] L. Levin, B. Bartlog, A. Font-Llitjos, D. Gates, A. Lavie, D. Wallace, T. Watanabe, W. Woszczyna, "Lessons Learned from a Task-based Evaluation of Speech-to-Speech Machine Translation", in Proceedings of LREC-2000, Athens, Greece, May 2000.

[3] C.P. Rose and A. Lavie, "Balancing Robustness and Efficiency in Unification-augmented Context-Free Parsers for Large Practical Applications". In Robustness in Language and Speech Technology, van Noord and Junqua (eds.), ELSNET series, Kluwer Academic Press.

[4] A. Lavie, L. Levin, P. Zhan, M. Taboada, D. Gates, M. Lapata, C. Clark, M. Broadhead, A. Waibel, "Expanding the Domain of a Multi-lingual Speech-to-Speech Translation System", In Proceedings of the Workshop on Spoken Language Translation, EACL-97, Madrid, Spain, July 1997.

[5] A. Lavie, "GLR*: a Robust Grammar-Focused Parser for Spontaneously Spoken Language", Ph.D thesis, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA. Technical Report CMU-CS-96-126, May 1996.

OTHER SELECTED PAPERS AND PUBLICATIONS:

[6] M. Woszczyna, M. Broadhead, D. Gates, M. Gavalda, A. Lavie, L. Levin, A. Waibel, "A Modular Approach to Spoken Language Translation for Large Domains", In Proceedings of AMTA-98, Longhorn, PA, October 1998.

[7] M. Finke, M. Lapata, A. Lavie, L. Levin, L. Mayfield-Tomokiyo, T. Polzin, K. Ries, A. Waibel, K. Zechner, "Clarity: Inferring Discourse Structure from Speech", In Proceedings of AAAI-98 Spring Symposium on Applying Machine Learning to Discourse Processing, Stanford, CA, March 1998.

[8] J. Bates and A. Lavie, "Recognizing Substrings of LR(k) Languages in Linear Time". ACM Transactions on Programming Languages and Systems (TOPLAS) 16(3), pp. 1051-1077, May 1994.

LIST OF COLLABORATING RESEARCHERS:

Dr. Lynn Carlson	Department of Defense
Dr. Barbara Di Eugenio	University of Illinois (Chicago)
Dr. Edward Gibson	Brain and Cognitive Science Dept., MIT
Dr. Boyan Onyshkevych	Department of Defense
Dr. Carolyn Penstein Rosé	LRDC, University of Pittsburgh
Dr. Sara Shelton	Department of Defense
Dr. Ann Thyme-Gobbel	Natural Speech Technologies
Dr. Masaru Tomita	Keio University, Japan
Dr. Carol Van Ess-Dykema	Department of Defense

Summary of students advised: From 1996 to the present, advising 1 current PhD student, advised 4 Master students and served on 6 Ph.D. and M.S. dissertation committees.

LIST OF GRADUATE AND POST-GRADUATE ADVISORS:

Dr. Masaru Tomita, Keio University, Japan
Dr. Jaime Carbonell, School of Computer Science, Carnegie Mellon University
Dr. Alex Waibel, School of Computer Science, Carnegie Mellon University