

## KEVIN KAIPING DUH

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CONTACT INFORMATION Kevin Duh *Phone: (206) 221-5216*  
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Seattle, WA 98195

INTERESTS Machine Learning, Natural Language Processing, Web Search, Speech Recognition

EDUCATION **University of Washington, Seattle, WA, USA**

Ph.D. Program, Electrical Engineering, Jan 2004 - May 2009 (expected)

- Thesis: Learning to rank with partially-labeled data
- Committee: Katrin Kirchhoff, Jeff Bilmes, William Noble, Mari Ostendorf, Marina Meila, Efthimis Efthimiadis
- M.S. in Electrical Engineering (March 2006)

**Rice University, Houston, TX, USA**

B.S., Electrical and Computer Engineering, May 2003

EXPERIENCE **Signal, Speech, and Language Interpretation Lab, University of Washington, Seattle, WA**

*Graduate Research Assistant (Jan 2004 - present)*

- Pursuing research in machine learning for natural language processing, machine translation, and information retrieval, with an emphasis on how to effectively utilize limited resources by semi-supervised learning.
- Experience in kernel methods, graphical models, boosting, semi-supervised learning, and structured output problems.
- Advisor: Dr. Katrin Kirchhoff

**Microsoft Research, Knowledge Tools Group, Redmond, WA**

*Intern (Summer 2007)*

- Performed research in the emerging field of “machine learning for systems” and explored the use of machine learning and statistics for improving operating system responsiveness.
- Advisors: Dr. Sumit Basu, Dr. John Dunagan; Manager: John Platt

**Microsoft Research, Natural Language Processing Group, Redmond, WA**

*Intern (June 2005 - Sept 2005) ; Consultant (Nov 2005 - Oct 2006)*

- (1) Developed parsers for Arabic, Chinese, Czech, English to be used by Microsoft’s machine translation system. (2) Designed a web miner for harvesting bilingual corpora from the Web.
- Advisor: Dr. Simon Corston-Oliver; Manager: Dr. Bill Dolan

**NTT (Nippon Telegraph & Telephone) Cyberspace Laboratory, Yokosuka, Japan**

*Visiting Research Intern (July 2003 - Dec 2003)*

- Prototyped a “singing voice synthesizer” that generates human-like singing voice based on arbitrary lyrics and scores. Commercial system now available: <http://www.utabara.com>
- Manager: Dr. Yushi Aono

**Digital Signal Processing Research Group, Rice University, Houston, TX**

*Undergraduate Researcher (Sept 2002 - May 2003)*

- Pursued research in multi-scale image analysis using *wedgelets*, with applications in medical imaging. Implemented fast C code with Matlab interface.
- Advisor: Dr. Rob Nowak, Dr. Becca Willett

**MIT Lincoln Laboratory, Space Control Group**, Lexington, MA  
*Intern (Summer 2002)*

- Developed least-squares algorithms for estimating timing errors in GPS satellites and receivers. Results are used for ionospheric modeling and calibration of MIT's satellite-tracking radar.
- Advisor: Dr. Anthea Coster

AWARDS AND  
ACTIVITIES

- National Science Foundation Graduate Research Fellowship (2005-2008)
- Instructor, Graduate course on Machine Learning (co-teach w/ Mari Ostendorf), 2008
- Co-chair, NAACL 2009 Workshop: Semi-supervised learning for Natural Language Processing
- Co-chair, ACL 2006 Student Research Workshop
- Reviewer for: ACL, EMNLP, HLT, AISTATS, PACLING, IEEE Trans. Speech and Language, etc.
- Best Senior Project Award, Rice University (2003) - VLSI Design of Fuzzy Logic Controller
- Chairman, IEEE Student Branch, Rice University (2002-2003)

SKILLS AND  
COURSEWORK

- Relevant Coursework:  
 Statistical Learning, Graphical Models, Speech Processing, Optimization, Information Theory, Stochastic Processes, Digital Signal Processing, Computational Biology, Multimedia Networking
- Computer skills: C/C++, Perl, Matlab, Python, Linux
- Language skills: Chinese (fluent), Japanese (proficient; JETRO Business Japanese Test Level 3)

SELECTED  
PUBLICATIONS

- K. Duh and K. Kirchhoff, "Learning to Rank with Partially-labeled Data," *ACM SIGIR Conf. on Research and Development in Information Retrieval*, Singapore, 2008.
- K. Duh and K. Kirchhoff, "Beyond Log-linear Models: Boosted Minimum Error Rate Training for N-best Re-ranking", *Proc. of the Assoc. for Computational Linguistics (ACL)*, Columbus, Ohio, 2008.
- K. Duh and K. Kirchhoff, "Lexicon Acquisition for Dialectal Arabic Using Transductive Learning," *Proc. of Empirical Methods in Natural Language Processing (EMNLP)*, Sydney, Australia, 2006.
- K. Duh and K. Kirchhoff. "Structured Multi-label Transductive Learning: a Case Study in Lexicon Acquisition," *NIPS Workshop on Structured Learning for Text and Speech Processing*, Whistler, 2005.
- K. Duh and K. Kirchhoff. "Automatic Learning of Language Model Structure," *Proceedings of the International Conference on Computational Linguistics (COLING)*, Geneva, Switzerland, Aug 2004.

CITIZENSHIP

U.S. Citizen