Curriculum Vitae

XIAOJIN ZHU

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4533 NSH, LTI/SCS, Carnegie Mellon University

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Also use the name Jerry.

Academic Education

Ph.D., Carnegie Mellon University, 2005

Language Technologies Institute School of Computer Science

M.Sc., Carnegie Mellon University, 2002

Center for Automatic Learning and Discovery School of Computer Science

M.Sc., Carnegie Mellon University, 2000

Language Technologies Institute School of Computer Science

M.Sc., Shanghai Jiao Tong University, 1996

Department of Computer Science and Engineering

B.Sc., Shanghai Jiao Tong University, 1993

Department of Computer Science and Engineering

Employment Research Assistant, Carnegie Mellon University, 1998 – 2005

Semi-supervised learning and kernel conditional random fields research with Prof. John Lafferty. Language modeling and speech interfaces with Prof. Ronald Rosenfeld.

Research Scientist, IBM, 1996 – 1998

IBM China Research Lab. Chinese speech recognition and language modeling. We launched IBM ViaVoice Mandarin in September 1997. Three patents on language modeling.

Research Assistant, Shanghai Jiao Tong University, 1993 – 1996

Compiler research with Prof. Wenyong Hou.

Publications

— Book Chapters —

X. Zhu and J. Kandola and J. Lafferty and Z. Ghahramani

Graph Kernels by Spectral Transforms.

In Chapelle, O., Zien, A., and Schölkopf, B. (Eds.)

Semi-Supervised Learning. MIT Press: Boston. 2005. To Appear.

— Journal Articles —

R. Rosenfeld and S. F. Chen and X. Zhu.

Whole-Sentence Exponential Language Models: a Vehicle for Linguistic-

Statistical Integration.

Computers Speech and Language, 15(1), 2001.

— Refereed Conference Articles —

X. Zhu and J. Lafferty.

Harmonic mixtures: combining mixture models and graph-based methods for inductive and scalable semi-supervised learning.

Proc. of the 22nd International Conference on Machine Learning (ICML05). ACM press, 2005.

X. Zhu and J. Kandola and Z. Ghahramani and J. Lafferty.

Nonparametric Transforms of Graph Kernels for Semi-Supervised Learning.

Advances in Neural Information Processing Systems 17 (NIPS04). MIT Press, 2005.

J. Lafferty and X. Zhu and Y. Liu.

Kernel Conditional Random Fields: Representation and Clique Selection. *Proc. of the 21st International Conference on Machine Learning (ICML04)*. ACM press, 2004.

X. Zhu and Z. Ghahramani and J. Lafferty.

Semi-Supervised Learning Using Gaussian Fields and Harmonic Functions. *Proc. of the 20th International Conference on Machine Learning (ICML03)*. ACM press, 2003.

S. Shriver and A. Toth and X. Zhu and A. Rudnicky and R. Rosenfeld.

A Unified Design for Human-Machine Voice Interaction.

Proc. of ACM SIGCHI Conf. on Human Factors in Computing Systems (CHI 2001). ACM press, 2001.

X. Zhu and R. Rosenfeld.

Improving Trigram Language Modeling with the World Wide Web.

Proc. IEEE Int. Conf. on Acoustics. Speech, Signal Processing (ICASSP 2001)

R. Rosenfeld and X. Zhu and A. Toth and S. Shriver and K. Lenzo and A. Black. Towards a Universal Speech Interface.

Proc. Int. Conf. on Spoken Language Processing (ICSLP 2000)

X. Zhu and J. Yang and A. Waibel.

Segmenting Hands of Arbitrary Color.

Proc. Int. Conf. on Automatic Face and Gesture Recognition, 2000.

J. Yang and X. Zhu and R. Gross and J. Kominek and Y. Pan and A. Waibel. Multimodal People ID for Multimedia Meeting Browser.

ACM Multimedia'99, 1999.

X. Zhu and S. F. Chen and R. Rosenfeld.

Linguistic Features for Whole Sentence Maximum Entropy Language Models.

Proc. of Eurospeech'99, 1999.

X. Zhu and D. Tang and L. Shen.

Automatic Punctuation for Continuous Speech Recognition.

Proc. of the 5th National Conference on Man-Machine Speech Communication NCMMSC-98, China, 1998

X. Zhu

Context-Transparent Word and Its Application in Chinese Speech Recognition.

Proc. of the 5th National Conference on Man-Machine Speech Communication NCMMSC-98, China, 1998

— Refereed Workshop Articles —

Maria-Florina Balcan and Avrim Blum and Pakyan Choi and John Lafferty and Brian Pantano and Mugizi Robert Rwebangira and Xiaojin Zhu.

Person Identification in Webcam Images: An Application of Semi-Supervised Learning

ICML 2005 workshop on Learning with Partially Classified Training Data, 2005.

X. Zhu and J. Lafferty and Z. Ghahramani.

Combining Active Learning and Semi-Supervised Learning Using Gaussian Fields and Harmonic Functions.

ICML 2003 workshop on The Continuum from Labeled to Unlabeled Data in Machine Learning and Data Mining.

— Non-Refereed Technical Reports —

X. Zhu and Z. Ghahramani and J. Lafferty.

Time-Sensitive Dirichlet Process Mixture Models.

CMU-CALD-05-104, Carnegie Mellon University, 2005.

Xiaojin Zhu.

Semi-Supervised Learning with Graphs.

Doctoral thesis, CMU-LTI-05-192, Carnegie Mellon University, 2005.

X. Zhu and J. Lafferty and Z. Ghahramani.

Semi-Supervised Learning: From Gaussian Fields to Gaussian Processes. CMU-CS-03-175, Carnegie Mellon University, 2003.

X. Zhu and Z. Ghahramani.

Learning from Labeled and Unlabeled Data with Label Propagation. CMU-CALD-02-107, Carnegie Mellon University, 2002.

X. Zhu and Z. Ghahramani.

Towards Semi-Supervised Classification with Markov Random Fields. CMU-CALD-02-106, Carnegie Mellon University, 2002.

X. Zhu and R. Rosenfeld.

Improving Trigram Language Modeling with the World Wide Web. CMU-CS-00-171, Carnegie Mellon University, 2000.

Peer Reviewing Activities

Program Committee

- 18th Conference on Uncertainty in Artificial Intelligence (UAI2005)

- ICML 2005 Workshop on Learning with Partially Classified Training Data
- AI & Statistics 2005
- The 21th International Conference on Machine Learning (ICML 2004)

Journal Refereeing

- Journal of Machine Learning Research
- Pattern Recognition Letters

Conference Refereeing

- Neural Information Processing Systems 2003, 2005
- International Conference on Machine Learning 2003
- "Text Learning: Beyond Supervision" workshop at IJCAI'2001

Teaching

Instructor, Carnegie Mellon University, June 16, 2004

Learning from Labeled and Unlabeled Data, CALD Summer School.

Teaching Assistant, Carnegie Mellon University, Fall 2000

Machine Learning 15-681.

Honors and Awards

Microsoft Research Graduate Fellowship, 2000-2001

SCS Today 2000 "Student Stars" http://www.cs.cmu.edu/stars/2000/11/zhu.html

IBM Research Division Award, for contributions to ViaVoice for Mandarin, 1998/5

IBM First Patent Application Invention Achievement Award, 1997/12

IBM Greater China Group Team Award, for contributions to the Chinese Speech Recognition Project, 1997/12

Invited Talks

Semi-supervised Learning with Gaussian Random Fields

University of Cambridge, 2004/3

Kernel Conditional Random Fields

Gatsby Computational Neuroscience Unit, UCL, 2004/2

Semi-supervised Learning

Microsoft Research Cambridge, 2004/2

Semi-Supervised Learning with Label Propagation

NSF Aladdin Workshop on Graph Partitioning in Vision and Machine Learning,

2003/1

Graduate Committee Service

CALD Ph.D. Student Speaking Requirement Committee, 2003-2004

Center for Automated Learning and Discovery, Carnegie Mellon University

Graphical Models Reading Group Organizer, Spring 2004 School of Computer Science, Carnegie Mellon University

The Machine Learning Lunch Organizer, 2003

School of Computer Science, Carnegie Mellon University

Undergrad Supervision

Pak Yan Choi, Brian Pantano. Carnegie Mellon University. 2003/9 - 2004/6

CALO project: people recognition from webcam video with semi-supervised learning. Advise on data collection, processing, and research.