Chun-Nam Yu

3-55 Athabasca Hall
Department of Computing Science
University of Alberta
Edmonton, T6G 2E8, AB Canada

Phone: 587-989-6305
Email: chunnam@cs.ualberta.edu
Homepage: http://webdocs.cs.ualberta.ca/∼chunnam/

Current Position

University of Alberta, Canada, September 2010 - Present
Postdoctoral Fellow at Department of Computing Science and
Alberta Innovates Center for Machine Learning (AICML)
Supervisor: Russ Greiner

Education

Cornell University, August 2004 - August 2010
Ph.D. in Computer Science (with minor in Applied Mathematics)
Advisor: Thorsten Joachims
Thesis: *Improved Learning of Structural Support Vector Machines: Training with Latent Variables and Non-linear Kernels*

Wadham College, Oxford University, UK, October 2001 - July 2004
B.A. in Mathematics & Computer Science (First Class Honours)

Diocesan Boys' School, Hong Kong, 1994 - 2001

Research Interests

Structured output learning, support vector machines, kernel methods, optimization, biomedical applications of machine learning

Research Experience

Postdoctoral Fellow at Alberta Innovates Center for Machine Learning (AICML), Sep 2010 - Present
Worked on designing machine learning algorithms for several biomedical projects, including survival prediction, covariate shift in patient population, elimination of batch effects in DNA microarray data; Mentored PhD and Masters students in the group; Contributed to several research grant proposals
Supervisor: Russ Greiner

Summer Intern at Yahoo! Research, Santa Clara, CA, Summer 2008
Worked on large-scale distributed SVM training using the open-source MapReduce implementation Hadoop
Supervisors: Dr. Sathiya Keerthi and Dr. Olivier Chapelle

Summer Intern at Siemens Medical Solutions, Malvern, PA, Summer 2007
Worked on the problem of applying multiple view learning to the classification of tumor candidates in mammography
Supervisors: Dr. Balaji Krishnapuram and Dr. Shipeng Yu

Professional Activities

Program Committee Member:

International Conference on Machine Learning (ICML) 2011, 2012
Uncertainty in Artificial Intelligence (UAI) 2011
Neural Information Processing Systems (NIPS) 2009, 2010
European Conference on Machine Learning (ECML) 2008, 2010
Also conference paper reviewer for NIPS 07, ICML 07, ICML 08, AAAI 07, AAAI 08

Journal Article Reviewer

Journal of Machine Learning Research (JMLR), Journal of Artificial Intelligence Research (JAIR), IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE Transactions on Neural Networks (TNN), Neurocomputing, Data Mining and Knowledge Discovery, Information Retrieval, INFORMS Journal on Computing

Honors and Awards

Best Paper Award, European Conference on Machine Learning (ECML), 2009
Departmental Teaching Assistant Award, CS478 Machine Learning, 2007
The Olin Fellowship, 2004-2005
Wadham College Fellowships, 2002-2004
The Corcoran Prize (First Public Exam, Maths & Joint School), 2002
The Lee Shau Kee Scholarship (for study at Oxford University), 2001-2004

Invited Talks

Building Complex Prediction Models with Support Vector Machines
Department of Computing Science, University of Albeta, Feb 2010
IBM T.J. Watson Research Center, Nov 2009

Learning Structural SVMs with Latent Variables
IBM Statistical Machine Learning and its Applications (SMiLe) Workshop, Oct 2009

Introduction to Machine Learning and Support Vector Machines
Hamilton College, NY, June 2011

Teaching Experience

Teaching Assistant at Cornell University
CS478 Machine Learning (Spring 2007, Spring 2008),
CS472 Foundations of Artificial Intelligence (Fall 2007)
Involved with teaching guest lectures, designing homework problems, grading, holding review sessions

Bioinformatics Summer Workshop at Hamilton College, NY
Taught a 3-day workshop on introductory machine learning and support vector machines to a group of summer research students and faculties from bioinformatics, biology, chemistry departments

Grant Writing Experience

Co-wrote the AICML grant 'Survival prediction for cancer patients' (CAD$ 33,482. September 2011 to March 2012)

Publications

Journal Articles

T. Joachims, T. Hofmann, Y. Yue, **C.-N. Yu**, Predicting Structured Objects with Support Vector Machines, *Communications of the ACM, Research Highlight*, 52(11):97-104, November 2009

T. Joachims, **C.-N. Yu**, Sparse Kernel SVMs via Cutting-Plane Training, *Machine Learning (ECML PKDD 2009 Special Issue)*, 2009, volume 76(2-3), pp179-193

T. Joachims, T. Finley, **C.-N. Yu**, Cutting-Plane Training of Structural SVMs, *Machine Learning*, 2009, volume 77(1)

C.-N. Yu, T. Joachims, R. Elber, J. Pillardy, Support Vector Training of Protein Alignment Models, *Journal of Computational Biology*, 2008, volume 15(7), pp867-88

Refereed Conference Proceedings

C.-N. Yu, Transductive Learning of Structural SVMs via Prior Knowledge Constraints, *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2012

C.-N. Yu, R. Greiner, H.-C. Lin, V. Baracos, Learning Patient-Specific Cancer Survival Distributions as a Sequence of Dependent Regressors, *Advances in Neural Information Processing Systems (NIPS)*, 2011

C.-N. Yu, T. Joachims, Learning Structural SVMs with Latent Variables, *Proceedings of the 26th International Conference on Machine Learning (ICML)*, 2009

T. Joachims, **C.-N. Yu**, Sparse Kernel SVMs via Cutting-Plane Training, *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, 2009

C.-N. Yu, T. Joachims, Training Structural SVMs with Kernels Using Sampled Cuts, *Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, 2008

C.-N. Yu, T. Joachims, R. Elber, J. Pillardy, Support Vector Training of Protein Alignment Models, *Proceeding of the International Conference on Research in Computational Molecular Biology (RECOMB)*, 2007

Refereed Workshop Proceedings & Papers Under Review

S. Ravanbakhsh, **C.-N. Yu**, R. Greiner, A Generalized Loop Correction Method for Approximate Inference in Graphical Models, *ICML*, 2012, *submitted*

B. Damavandi, **C.-N. Yu**, S. Damaraju, R. Greiner, Explaining the Gene Signature Anomaly: Estimating the Overlap of Two Ranked Lists, *ISMB*, 2012, *submitted*

C.-N. Yu, T. Joachims, Learning Structural SVMs with Latent Variables, *NIPS Structured Input-Structured Output Workshop*, 2008

C.-N. Yu, T. Joachims, R. Elber, Training Protein Threading Models Using Structural SVMs, *ICML Workshop on Learning in Structured Output Spaces*, 2006

Additional Information

Computing Skills:
C, C++, Python, Matlab, R, Haskell, Hadoop, OpenMP, MPI, Linux, Windows

Languages:
English (fluent), Cantonese (native), Mandarin (fluent)

Immigration and Visa Status: Hong Kong SAR citizen, US B-1 travel visa

References

Thorsten Joachims
Associate Professor
Department of Computer Science
Cornell University, Ithaca NY 14853
Email: tj@cs.cornell.edu

Russ Greiner
Professor
Department of Computing Science
University of Alberta, Edmonton, Canada, T6G 2E8
Email: rgreiner@ualberta.ca

Ron Elber
Professor
Department of Chemistry and Biochemistry and
Institute of Computational Sciences and Engineering
The University of Texas at Austin
1 University Station, ICES, Austin, TX 78712
Email: ron@ices.utexas.edu

Sathiya Keerthi
Senior Scientist
Yahoo! Research, Machine Learning Group
4401 Great America Parkway
Santa Clara, CA 95054
Email: selvarak@yahoo-inc.com