

# HUSEYIN OKTAY

140 GOVERNORS DRIVE  
AMHERST, MA 01003  
(413) 545-1519

EMAIL: hoktay@cs.umass.edu  
URL: www.cs.umass.edu/~hoktay  
MOBILE: (413) 813-5997

RESEARCH INTEREST I am intrigued by building scalable data-driven solutions to potentially high-impact business problems by leveraging machine learning, network science and distributed systems.

## EDUCATION

### Ph.D. in Computer Science

University of Massachusetts, Amherst, MA, (Expected) December 2013  
Knowledge Discovery Laboratory, Advisor: Assoc. Prof. David D. Jensen

### M.S. in Computer Science

University of Massachusetts, Amherst, MA, May 2010  
Knowledge Discovery Laboratory Advisor: Assoc. Prof. David D. Jensen

### B.S. in Computer Science

Bogazici University, Istanbul, Turkey, June 2007  
Advisor: Assist. Prof. Tunga Gungor

## RESEARCH EXPERIENCE

### Research Assistant

October 2010 - Present

Knowledge Discovery Laboratory  
University of Massachusetts, Amherst, MA

- Developed a framework to reason about quasi-experimental designs using relational and temporal graphical models and representations
- Designed and developed large-scale graph mining algorithms with MapReduce
- Developed relational causal structure learning algorithm

### Research Scientist

September 2012 - June 2013

Crimson Hexagon, Boston, MA

- Developed Bayesian models to infer demographic information
- Leveraged topic models for opinion analysis on social media
- Developed text analytics tools for sentiment analysis on social media
- Developed relational models to infer user interest profile from diverse sources

### Research Scientist Student

October 2009 - July 2010

Human Social Dynamics Group  
Yahoo! Research, New York, NY

Supervisor: Duncan J. Watts, Principal Research Scientist

- Designed and executed observational analysis of social media systems by exploiting quasi-experimental designs to estimate potential causal effects

### Summer Intern

July 2010 - October 2010

Mitsubishi Electric Research Laboratory, Cambridge, MA  
Supervisor: William Yezazunis, Senior Principal Research Scientist

- Implemented and tested support vector machines for multi-class document classification using CRM114 open source discriminator

### Teaching Assistant

September 2008 - May 2009

University of Massachusetts, Amherst, MA

- Assisted the course, *Introduction to Artificial Intelligence*

- Assisted the course, *Representing, Storing, Retrieving Information*

**Research Assistant**

**January 2008 - September 2008**

Robotics and Biology Laboratory  
University of Massachusetts, Amherst, MA

- Developed methods for modeling protein motion by exploiting ideas from Robotics

PUBLICATIONS

**Predicting Age using First names—A Generative Bayesian Model**

Oktay, H., Firat A., Ertem, Z.  
*IEEE ICDM, 2013, Dallas, TX (Submitted)*

**Efficient Parallel Approximation of Distance and Centrality in Shared Nothing Architectures**

Balkir S. A., Oktay, H., Foster I.  
*IEEE ICDM, 2013, Dallas, TX (Submitted).*

**Inferring Ethnicity on Twitter**

Oktay, H., Herdagdelen, A, Firat A.  
*The 7th ACM WSDM Conference, 2014, New York, NY (Submitted).*

**Inferring Age on Twitter**

Oktay, H., Firat A., Ertem, Z.  
*Workshop on Information Networks, 2013, New York, NY(Submitted).*

**Predicting ReTweet Count Using Visual Cues**

Oktay, H., Can, F. E., Manmatha, R.  
*Proceedings of the 22<sup>nd</sup> CIKM Conference, 2013, San Fransisco, CA.*

**Distance Estimation for Very Large Networks using MapReduce and Network Structure Indices**

Oktay, H., Balkir S. A., Foster I., Jensen, D. D.  
*Workshop on Information Networks, 2011, New York, NY.*

**Large Scale Graph Mining Algorithms with MapReduce**

Balkir S. A., Oktay, H., Foster I.  
*International Conference on Network Science, 2012, Chicago, IL.*

**Causal Discovery in Social Media Using Quasi-Experimental Designs**

Oktay, H., Taylor, B. J., Jensen, D. D.  
*Proceedings of the SIGKDD/ACM Workshop on Social Media Analytics. 2010, Washington, DC.*

**Learning Causal Models of Relational Domains**

Maier, M. E., Taylor, B., Oktay, H., Jensen, D. D.  
*Proceedings of the Twenty-Fourth Conference on Artificial Intelligence (AAAI-2010). Atlanta, GA. 2010.*

**Ethnic Topic Models**

Oktay, H., Dietz, L.  
*Working Paper, 2013*

AWARDS

IBM Research Travel Award for 16<sup>th</sup> ACM SIGKDD Conf., Washington, DC, 2010

- COMPUTER SKILLS    Languages:    MapReduce, Python, MySQL, Bash Scripting, C, C++, Java, JSP, HTML, LISP, Scheme, Prolog, LaTeX, Django Web Framework  
                          Software:        Hadoop, Matlab, R-Statistics Framework, Bugs, Jags
- PROFESSIONAL SERVICE    – Program committee member for the Third, Fourth and Fifth International Conference on Social Informatics, 2011, 2012, 2013
- Reviewer for *Journal of Information Technology and Politics*, since 2010
- Reviewer for the Fourth North East Student Colloquium on Artificial Intelligence, 2010
- EXTRACURRICULAR ACTIVITIES    – Participated in Machine Learning Summer School, Sardinia, Italy (May, 2010)
- Graduate Student Representative (January 2011 - January 2012)
- Member of Machine Learning and Friends Lunch Organizing Committee (September 2009 - June 2012)
- Senator representing Computer Science Department in Graduate Student Senate (September 2007 - June 2010)
- Member of Finance Committee in Graduate Student Senate (September 2007 - present)
- Member of Hiring Committee in Graduate Student Senate (2008, 2009)
- REFERENCES            – Available upon request