# Stephen W. Mayhew

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mayhewsw.github.io

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| **Research Interests** | Natural Language Processing, Transliteration, Multilingual Techniques, Trustworthiness, Information Extraction, Visualization, Speech Processing |

**Education**

Ph.D. Computer Science, 2017 -
Advisor: Dan Roth
University of Pennsylvania, Philadelphia, PA

Ph.D. Computer Science, Fall 2014 - 2017
Advisor: Dan Roth
University of Illinois at Urbana-Champaign, Urbana, IL

M.S. Computer Science, May 2014
Thesis: Trustworthiness and the Importance of Graph Structure
University of Illinois at Urbana-Champaign, Urbana, IL
GPA: 3.67/4.0

B.S. Computer Science with a Minor in Music, May 2012
Rose-Hulman Institute of Technology, Terre Haute, IN
GPA: 3.91/4.0, Summa Cum Laude

**Publications**

**Cheap Translation for Cross-Lingual Named Entity Recognition**
*Stephen Mayhew, Chen-Tse Tsai, Dan Roth*
EMNLP, 2017

**Transliteration in Any Language with Surrogate Languages**
*Stephen Mayhew, Christos Christodoulopoulos, Dan Roth*
*arxiv 2016*, https://arxiv.org/abs/1609.04325

**Cross-Lingual Named Entity Recognition via Wikification**
*Chen-Tse Tsai, Stephen Mayhew, Dan Roth*
CoNLL, 2016

**Visualization of Trustworthiness**
*Stephen Mayhew, Dan Roth*
WWW Workshop: Rumors and Deception in Social Media (RDSM), 2015

**Overview of UI-CCG systems for event argument extraction, entity discovery and linking, and slot filler validation**
*Mark Sammons, Yangqiu Song, Ruichen Wang, Gourab Kundu, Chen-Tse Tsai, Shyam Upadhyay, Siddharth Ancha, Stephen Mayhew, Dan Roth*
Proceedings of the Seventh Text Analysis Conference (TAC2014), 2014.

**Faster (and Better) Entity Linking with Cascades**
*Adrian Benton, Jay Deyoung, Adam Teichert, Mark Dredze, Benjamin Van Durme Stephen Mayhew, Max Thomas*
Automated Knowledge Base Construction (AKBC), 2014

**IllinoisCloudNLP: Text Analytics Services in the Cloud**
*Hao Wu, Zhiye Fei, Aaron Dai, **Stephen Mayhew**, Mark Sammons, Dan Roth*
Language Resources and Evaluation Conference (LREC), 2014

**RECOG: Recognition and Exploration of Content Graphs**
*Kara Greenfield, **Stephen Mayhew**, William Campbell*
Pacific Visualization, 2013

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| **Presentations:** | **Robust Information Extraction from Multiple Sources** |
| | CCICADA Research Retreat 2013, Houston, TX |

**Academic Honors**

**State Farm Companies Foundation Doctoral Scholar**, 2015-2016
**Siebel Scholar Award**, 2013
**Frank Young Senior Scholarship award**, 2012
Dean's List, all quarters of undergrad degree
Member of Upsilon Pi Epsilon, Computer Science Honor Society

**Experience**

**UPenn, LORELEI Summer Evaluation** — Summer 2017
*Summer Project - with Chase Duncan*
- Built an NER/EDL system for Oromo
  and Tigrinya with no gold annotated training data

**UIUC, LORELEI Summer Evaluation** — Summer 2016
*Summer Project - with Chen-Tse Tsai*
- Built an NER system for Uyghur with
  no gold annotated training data
- Built an annotation interface for NER

**Microsoft Research,** Redmond, WA — Summer 2015
*Research Intern*
- Worked on *GALEN*, a decision support system for
  clinical genomics
- Designed and implemented the frontend, and wrote
  code to interface with the backend
- Worked with Hoifung Poon, Kristina Toutanova,
  Chris Quirk, Scott Yih

**Johns Hopkins University,** Baltimore, MD — Summer 2013
*SCALE2013 Research workshop participant, Text Track*
- Created *slinky*, the streaming entity-linker
- Used parallelism techniques to make *slinky* very fast

**University of Illinois,** Urbana-Champaign, IL — 2012 – Present
*Research Assistant for Dan Roth*
- Work on trustworthiness techniques, especially as they
  apply to information extraction
- Testing and refactoring of group software

**MIT Lincoln Labs,** Boston, MA — Summer 2012
*Human Language Technologies Intern, Group 62*

- Surveyed several graph visualization tools
- Developed plugins for a specific visualization task

**Interactive Intelligence** Indianapolis, IN                           Summer 2011
*Development Intern, Speech Analytics team*
- Developed a prototype Text-To-Speech engine using Festival
- Researched multiple ways to improve voice quality
- Advised team members on duplicating engine prototype
- Wrote extensive documentation for voice-building process

**Alcoa Howmet,** Whitehall, MI                           Summer 2010
*IT Intern*
- Conducted department-wide interviews regarding workflow
- Designed and deployed a license tracker utility
- Developed several VBA solutions for Office applications
- Developed programs to read Word files, and write to Excel files

**Teaching Experience**

**University of Illinois,** Urbana, IL
CS446, Machine Learning,                           Spring 2015
Teaching Assistant for Julia Hockenmaier

**Rose-Hulman,** Terre Haute, IN                           2009 – 2012
*Teaching assistant, grader*
- Grader for CS freshman year courses, Databases, Requirements and Specifications, Design and Analysis of Algorithms

**Service**

External reviewer for **TKDE 2014**

Graduate Student Ambassador for prospective students                           2014-2015
University of Illinois

Graduate Student Member on the CS Fellowships,                           Spring 2015
Admissions, and Assistantship Committee

**Other Experience**

English teacher in Daejeon, Korea                           Summer 2009
Violinist Terre Haute Symphony Orchestra (semi-pro)                           2005 – 2012

**Skills**

Python, Java, Scala, HTML, CSS, JavaScript, C#, C, MySQL, PHP,
Scheme, Objective-C, elisp, Haskell.
Data visualization - d3.js, Gephi, JUNG, matplotlib, Cytoscape
Working knowledge of Spanish, preliminary knowledge in Korean, Latin, Greek, Hebrew

**Citizenship**

Dual citizenship US/UK.