

Liu Liu

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RESEARCH INTEREST

Data Mining, Information Retrieval, Machine Learning and Natural Language Processing

EDUCATION

Carnegie Mellon University, Pittsburgh, Pennsylvania USA

M.S., Language Technologies, exp. August 2010 GPA: 3.86/4.0

Advisor: Prof. Jack Mostow

Relevant Courses: Machine Learning (A), Information Retrieval (A), Language and Statistics I (A), Algorithm for NLP (A)

Tsinghua University, Beijing, China

B.E., Computer Science and Technology, July 2008 GPA: 87.6/100

Thesis: Modeling Academic Social Network and Applications

Excellent Thesis Honor: Ranked 2nd/160 in department

RESEARCH EXPERIENCE

Using NLP in Tutor LISTEN to assist vocabulary learning

August 2008 - present

Project LISTEN, School of Computer Science, Carnegie Mellon University

- Proposed multiple methods to find semantically related words to assist vocabulary learning.
- Implemented an algorithm and developed a system using JAVA to automatically generate good example contexts with Google N-gram data and multiple NLP techniques.
- A journal article for this work is ready to submit.

Modeling Academic Social Network and Applications

March 2008 – June 2008

Knowledge Engineering Group Lab, Computer Science Department, Tsinghua University

- Designed and implemented a novel topic model using C++ to model the topical aspects and semantic dependencies of the heterogeneous data (e.g., paper, authors, conferences and citations) in the academic social network.
- Implemented an innovative algorithm to extend Latent Dirichlet Allocation with network regularization to better capture both the hidden topics and social network structure.

Expertise object search: Expert Finding

July 2007 – October 2007

Knowledge Engineering Group Lab, Computer Science Department, Tsinghua University

- Involved in proposing a mixture model for expert finding based on PLSI
- Researched and surveyed PLSI, conducted experiments using java and wrote part of the paper.

PUBLICATIONS

Liu Liu, Jack Mostow, and Gregory Aist. **Automated Generation of Example Contexts for Helping Children Learn Vocabulary**. *Second ISCA Workshop on Speech and Language Technology in Education (SLaTE'2009)*.

Liu Liu, Gregory Aist, and Jack Mostow. **Generating Example Contexts for Vocabulary Words: Initial Steps**. *Sixth Midwest Computational Linguistics Colloquium 2009*. Bloomington, Indiana

Jing Zhang, Jie Tang, **Liu Liu**, and Juanzi Li. **A Mixture Model for Expert Finding**. In *Proceedings of Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD'2008)*. pp. 466-478.

HONORS /PRIZES

2008-2010: Carnegie Mellon University Research Fellowship

2009: Best Poster Award, Student Research Symposium, Language Technologies Institute, CMU

2009: Invited to 2009 Google Workshop for Women Engineers

2009: Yahoo! Scholarship for the 2009 Grace Hopper Celebration of Women in Computing

2008: Scholarship for Excellent Thesis, Tsinghua University

COMPUTER SKILLS

Programming Languages: C/C++, Java, Matlab, R, Python, SQL, x86 Assembly

Development Tools: Microsoft Visual Studio, Eclipse, Matlab, Mysql