

CHUAN HU

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Computer Science, New Mexico State University, MSC CS, P.O. Box 30001
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EDUCATION

- Ph.D. candidate in Computer Science, Aug. 2012 - Present
New Mexico State University, Las Cruces, NM *Expected to graduate in Aug. 2017*
Advisor: Huiping Cao
GPA 4.0 (out of 4.0)
- B.S. in Management Information Systems, Sep. 2008 - Jun. 2012
Southwestern University of Finance and Economics, Chengdu, China

TECHNICAL SKILLS

System Administration	Linux
Programming Languages	Java, C, C++, Python, R, MATLAB, Unix Shell Script, Lisp,
Databases	MySQL, Microsoft SQL Server Integration Services, ETL tools
Data Mining Tools	SAS Enterprise Mining Module, Weka
Revision Control Systems	Git, SVN
Writing Tools	Latex, Latex Beam, Latex TikZ, Graphviz

RESEARCH INTERESTS

- **Graph mining**: discovering influence relationships among social networks and citation networks
- Efficient **learning algorithms** (Gibbs sampling, etc.) for **topic models (LDA)**
- Scalable and energy-efficient **data mining** algorithms

PROJECT EXPERIENCE

- 1. Discovering Dynamic Influence from Heterogeneous Graphs** *Jul. 2014 - Jun. 2015*
Java, Python, Linux, Parallel Programming *Las Cruces, NM, USA*
We propose a topic model based framework to discover the dynamic influence among users in heterogenous networks (social networks, citation networks, etc.). A multithread parallel Gibbs sampling algorithm in Java is developed to make the solution scalable on large data sets. Experiments show that the proposed learning algorithm scales well on real world data and multicore systems running Linux. The experiment results are collected with Python scripts.
- 2. Crawling Company Information from Social Network** *Jan. 2014 - Mar. 2014*
Python, REST API *Las Cruces, NM, USA*
This is an interdisciplinary project in which we collaborate with Business School of NMSU. I develop a crawler in Python to collect the public information of companies from social networks (Facebook, Twitter and LinkedIn). The crawler uses the REST API provided by the developer accounts to collect data without being blocked. In total we collect all the public news and information of 70 companies in half an hour.
- 3. Range Project: Spatial and Temporal Data Analysis** *Sep. 2012 - Jan. 2013*
MySQL *Las Cruces, NM, USA*

This is an interdisciplinary project in which we collaborate with Animal and Range Sciences Department of NMSU. We store and analyze the spatial-temporal data collected by GPS in MySQL. We discover useful grazing patterns of the cattle. Range researchers agree with these patterns. The result of this project was published at *Rangeland Ecology & Management*.

4. **INews Security Investment Decision Support System** *May 2011 - Nov. 2011*
Java, Luence, Web Crawling, Team Leader *Chengdu, China*

In this project we develop a decision support system for security investments. The system can automatically crawl financial news from portal websites (WSJ, NY Times, etc.) and analysis the impact of the public news on stock prices. I develop the news crawling module for this system. I use Java package dom4j to crawl news links from RSS feeds. Then HtmlParser is used to parse the HTML pages and extract the news text. Finally Luence library is utilized to store and index the crawled news text.

5. **News Recommendation in Social Media** *Mar. 2011 - Sep. 2011*
Java *Chengdu, China*

In this project we propose a framework to improve the accuracy of the news recommendation by utilizing user comments in the social media. Our proposed recommendation algorithm improves the recommendation accuracy compared with the state-of-art approaches.

PUBLICATIONS

- **Chuan Hu**, Huiping Cao: Discovering Time-evolving Influence from Dynamic Heterogeneous Graphs, 2015 IEEE International Conference on Big Data (IEEE BigData 2015) the first International Workshop on Mining Big Data in Social Networks (MBD-SONET).
- Yifan Hao, Huiping Cao, Yan Qi, **Chuan Hu**, Sukumar Brahma, and Jingyu Han: Efficient Keyword Search on Graphs using MapReduce, 2015 IEEE International Conference on Big Data (IEEE BigData 2015) short paper.
- **Chuan Hu**, Huiping Cao, Chaomin Ke: Detecting Influence Relationships from Graphs, in Proceedings of the 2014 SIAM International Conference on Data Mining (SDM), 821-829, 2014. <http://dx.doi.org/10.1137/1.9781611973440.94>
- **Chuan Hu**, Chen Zhang, Tiejun Wang, Qing Li: An Adaptive Recommendation System in Social Media, in Proceeding of Hawaii International Conference on Systems Science (HICSS), 1759-1767, 2012. <http://dx.doi.org/10.1109/HICSS.2012.94>
- Yifan Hao, Huiping Cao, **Chuan Hu**, Kabi Bhattarai, Satyajayant Misra: K -anonymity for social networks containing rich structural and textual information, Social Network Analysis and Mining 4(1):223-261 (December 2014). <http://dx.doi.org/10.1007/s13278-014-0223-3>
- Mohammed N. Sawalhah, Andrés F. Cibils, **Chuan Hu**, Huiping Cao, and Jerry L. Holechek: Animal-Driven Rotational Grazing Patterns on Seasonally Grazed New Mexico Rangeland. In Rangeland Ecology & Management 67(6):710-714 (November 2014). <http://dx.doi.org/10.2111/REM-D-14-00047.1>
- **Chuan Hu**, Huiping Cao: Aspect-level Influence Discovery from Graphs, prepare major revision to submit to IEEE Transactions on Knowledge and Data Engineering (TKDE).

AWARDS

1. SDM2014 Student Travel Support *Apr. 2014*
 - Organization: Society for Industrial and Applied Mathematics (SIAM)
2. Outstanding Teaching Assistant Award *May 2014*
 - Organization: New Mexico State University Computer Science Department.
3. Third Prize (6 out of 200) in Citi Cup National Information Contest *Nov. 2011*
4. First Prize in Chinese University Mathematical Contest in Modeling (CUMCM) *Feb. 2011*