

LIN LIU

211 Comanche Pl.
Kent, OH 44240

Cell Phone: (330)-389-3928
Email: lliu6@kent.edu

Qualifications

- Quick learner with the ability to clarify problems
- Working well on team basis or independently
- Ability to handle multiple tasks and responsibilities simultaneously

Education

- | | | |
|---------------------------|--------------------------------------|----------------|
| • Ph.D., Computer Science | Kent State University | 2013(expected) |
| • M.S., Computer Science | Univ. of Elec. Sci. & Tech. of China | 2008 |
| • B.S., Computer Science | Univ. of Elec. Sci. & Tech. of China | 2005 |

Proficiency

- Programming Language: C++, Java, Shell, JavaScript, HTML, Python
- Database: MySQL, Microsoft SQL Server, Oracle, HBase
- Operating System: Linux, Windows
- Statistical Tools: Matlab, R, S-PLUS
- MapReduce Platform: Amazon EC2

Work Experience

Department of Computer Science, Kent State University

Research Assistant

Kent, OH
08/2008 – Present

- *Highly Cohesive Group Discovery for Large Social Networks*
This project aims to discover highly cohesive groups in social networks, such as colleagues in the company, members of Special Interest Group (SIG), or friends. I was tasked with designing and implementing sub-network discovering algorithms. To deal with large networks, I also implemented a network partitioning algorithm. These programs are implemented in C++ on Linux. This work is published in KDD11.
- *Trust Measurement for Large Social Networks*
The goal of this project was to efficiently measure the potential trust level for any two people in the social networks. Another application is to measure the reliability of communication between any two nodes in P2P networks. Based on sampling scheme, I was tasked with implementing six different unbiased statistical estimators. This program was implemented in C++ on Linux. This work is published in PVLDB11.
- *Large Social Network Summarization*
Large social networks (thousands of thousands of vertices) are hard to visualize and understand. This project was launched to facilitate the storage and visualization of large network structures. In this project, I implemented the network summarization algorithm using bi-clique graphs in C++ on Linux.
- *Pattern Summarization for Large Transactional Database*
The data analysis for large transactional database always focuses on frequent itemsets mining. Further, this project used the frequent sub-patterns to condense the frequent itemsets themselves. In this project, I was responsible for implementing the summarization algorithm in C++ on Linux. This work is published in KDD09.

University of Electrical Science & Technology

Student Intern

Chengdu, China
09/2006 – 07/2007

- *Music Analysis for Huawei Technologies, Co., Ltd*

Similar to Pandora, this project tries to automatically identify the genre of music, and furthermore to recommend music to individual users. In this project I was responsible for extracting different features of songs, such as pitch, instrument type, and rhythm. These programs were implemented in Java.

National Natural Science Foundation

Student Intern

Chengdu, China
09/2005 – 02/2006

- *Physical Reaction Detection*

This project applied data mining techniques to determine under which conditions the physical reaction happens. The highly dimensional and highly precise numerical data are stored in Hierarchical Data Format (HDF5). My responsibility was to apply data mining methods to detect the outliers (abnormal particles) from the reaction datasets. This program was written in Matlab.

Leadership Skills

Vice-president of College Students Association (2006 - 2007)

- Organized more than ten academic seminars
- As Chief Editor of College Graduate Student Academic Journal
- Managed the Annual Flash Design Contest in 2007
- Collaborated with University Graduate Students Association

Awards

- 2008 ~ 2011, Graduate Assistantship, Kent State University, USA
- 2008, **Outstanding Graduate**, Univ. of Elec. Sci. & Tech. of China
- 2007, **Outstanding Leadership Scholarship**, Univ. of Elec. Sci. & Tech. of China
- 2005, 2006, 2007, Excellent Graduate Student Scholarship, Univ. of Elec. Sci. & Tech. of China
- 2001, 2002, 2003, 2004, Excellent Undergraduate Student Scholarship, Univ. of Elec. Sci. & Tech. of China

Publications

- Ruoming Jin, Lin Liu, Charu C. Aggarwal, *Discovering Highly Reliable Subgraphs in Uncertain Graphs*, KDD11.
- Ruoming Jin, Lin Liu, Bolin Ding, and Haixun Wang, *Distance-Constraint Reliability Computation in Uncertain Graphs*, PVLDB11.
- Ruoming Jin, Yang Xiang, and Lin Liu, *Cartesian Contour: A Concise Representation for a Collection of Frequent Sets*, KDD09.

Presentations

- **Lin Liu**, *Distance-Constraint Reliability Computation in Uncertain Graphs*, PVLDB11, Seattle, WA.
- **Lin Liu**, *Discovering Highly Reliable Subgraphs in Uncertain Graphs*, KDD11, San Diego, CA.

Institutional and Professional Activities

- External reviewer for conferences: SDM09, ICDM09, EDBT09, KDD09, KDD10, SDM10, PAKDD11, ICDM11, DASFAA12, SDM12, PAKDD12, KDD12, VLDB12
- Teaching Assistant: Programming Language, Spring 2011
- Teaching Assistant: Cloud Computing(MapReduce, Hadoop), Spring 2012
- Lab instructor: Introduction to Computer Science (C++), Spring 2010
- Lab instructor: Introduction to Computer Science (HTML, JavaScript), Summer 2010, Fall 2011