

Guangyu Zhou

gzhou6@illinois.edu; 217-898-5298;
<http://publish.illinois.edu/guangyuzhou/>

EDUCATION

University of Illinois at Urbana-Champaign

Aug 2013 – May 2016 (Expected)

- *B.S. in Computer Science*
- GPA: 3.82/4.00

LANGUAGES

- Java, Python, C/C++, R, MATLAB, UNIX shell scripts, HTML/CSS, PHP, MySQL, JS

RESEARCH EXPERIENCE

Real-time Local Event Detection in Geo-tagged Tweet Stream

June 2015 – Oct 2015

Undergraduate Research Assistant

University of Illinois at Urbana-Champaign

Advisor: Professor Jiawei Han (Computer Science department)

- Worked on detecting local events from the geo-tagged tweet stream in an on-line and real-time fashion.
- Participated in the design of a novel local event detection method based on stream summarization and authority-based clustering.
- Implemented existing local event detection methods and evaluated their performances on real-life data.

Complexes Detection in Biological Networks via Diversified Dense Subgraphs Mining

Mar 2015 – Present

Undergraduate Research Assistant

University of Illinois at Urbana-Champaign

Advisor: Professor Jiawei Han, Jian Peng (Computer Science department)

- Investigated dense graph mining theory and related works in the field of bioinformatics, community search and event detection.
- Designed and implemented the Frequent Pattern growth tree (FP-Tree) based Diversified Maximal Dense Subgraph (DMDS) mining algorithm to discover cohesive groups in biological protein networks.
- Evaluated and compared the performance of DMDS algorithm and other baseline methods.

City-scale transportation system resilience and outlier detection

Mar 2015 – June 2015

Undergraduate Research Assistant

University of Illinois at Urbana-Champaign

Advisor: Professor Daniel Work (Civil and Environmental Engineering department)

- Investigated algorithms to do efficient computation on high-dimensional dataset with noise including Robust Principle Component analysis (RPCA) and Matrix Completion algorithm.
- Conducted preprocessing for missing value and dimension reduction on Chicago Taxi trajectory dataset.
- Created visualization to investigate the principal of outlier and abnormal event detection based on the diagrams and animations of city traffic dynamic system.

Text Entity Extraction and Match in semi-supervised learning with constraints

Jan 2015 - Present

Undergraduate Research Assistant

University of Illinois at Urbana-Champaign

Advisor: Professor Kevin C. Chang (Computer Science department)

- Studied natural language processing theories including Information Extraction, Text Classification Model, and Named Entity Recognizer, with a deep investigation on the state-of-art sequential discriminative probabilistic graphical model: Conditional Random Field.
- Participated in designing the semi-supervised constraint-learning framework in an expectation-maximization (EM) fashion with Gibbs Sampling.
- Conducted experiments and analysis by utilizing Stanford Named Entity Recognizer (NER) library.

TEACHING EXPERIENCE

University of Illinois at Urbana-Champaign, Computer Science

Aug 2015– Present

Course Assistant for Introduction to data mining

- Moderated discussion forums, explained concepts and answered questions for senior-level course.
- Participated in weekly TA sessions, supervised the designing and grading of assignments and exams.

INDUSTRY EXPERIENCE

Unicore Communications, Inc.

June - Aug 2014

System Verification and Data Analytics Intern

Beijing, China

- Improved GNSS (global navigation satellite system) Product Verification Tools by using MATLAB
- Trained with theory of navigation, GNSS hardware, GPS RF and IC design as well as working knowledge of NEMA Protocol, testing operation technique and verification tools
- Conducted Test for GNSS chips and modules including driving, setting up environment, data processing

ADDITIONAL EXPERIENCE

Public Outreach group: Clark-Lindsey Village technology community service

Sep – Dec 2013

Volunteer

Urbana, IL

- Assisted the local community with digital outreach programs
- Taught seniors how to use computers, set up printers, fix wireless issues, log into accounts

PROJECTS

Going Beyond Positives and Negatives in sentiment analysis (in preparation for publication)

Spring 2015

- Crawled user reviews data and conducted NLP analysis on semantic rich sentiment components: complaints and praises from user reviews
- Trained various classifiers including SVM, Logistic Regression and Naïve Bayes by feature selection
- Implemented the Chrome Extension to highlight rich semantic reviews on website

Car Auction Prediction

Fall 2014

- Utilized WEKA tool to generate ARFF files and wrote Java scripts to pre-process the data
- Implemented K-Nearest Neighbor, Support Vector Machine and Ada-boosting Classification Algorithm to predict the outcome of a car auction based on given training data in Python

Integrated Course information System

Spring 2014

- Designed ER Diagram for Database based on the functionality and set up server
- Created website at front-end by using HTML, JS, AJAX and connected it to database with PHP
- Implement Course Recommendation Mechanism based on GPA level among others, courses taken and to be taken, and course difficulty by adapting statistical learning algorithm and advanced SQL syntax

PUBLICATIONS

- Xiuli Ma, **Guangyu Zhou**, Jingjing Wang, Jian Peng and Jiawei Han. "Complexes Detection in Biological Networks via Diversified Dense Subgraphs Mining" (**RECOMB 2016**) (**Accepted**)
- Chao Zhang, **Guangyu Zhou**, Quan Yuan, Honglei Zhuang, Yu Zhang, Lance Kaplan, Shaowen Wang and Jiawei Han. *RLED: Real-time Local Event Detection in Geo-tagged Tweet Stream*. (**SIGIR 2016**) (**Under Review**)

HONORS:

- James scholar, Department of Computer Science, University of Illinois at Urbana-Champaign
- 2013, 2014 Dean's List, College of Engineering, University of Illinois at Urbana-Champaign