

# Chunwei Liu

Email: [chunwei@uchicago.edu](mailto:chunwei@uchicago.edu)

Address: Univ. of Chicago Computer Science Dept  
1100 E 58th St Room 177  
Chicago, IL 60637-1588

## Education Profile

- Sep. 2016- [The University of Chicago](#), PhD student
- Sep. 2013- Jul. 2016 [University of Chinese Academy of Sciences](#), Master of Engineering
- Sep. 2009-Jul. 2013 [Beihang University](#), Bachelor of Engineering

## Publications

- Huang, J., Qie, J., Liu, C., Li, S., Weng, J., & Lv, W. (2015). [Cloud computing-based map-matching for transportation data center](#). Electronic Commerce Research and Applications.
- Huang, J., Liu, C., & Qie, J. (2014, November). [Developing Map Matching Algorithm for Transportation Data Center](#). In P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), 2014 Ninth International Conference on (pp. 167-170). IEEE.
- Huang, J., Qiao, S., Yu, H., Qie, J., & Liu, C. (2013, November). [Parallel Map Matching on Massive Vehicle GPS Data Using MapReduce](#). In High Performance Computing and Communications & 2013 IEEE International Conference on Embedded and Ubiquitous Computing (HPCC\_EUC), 2013 IEEE 10th International Conference on (pp. 1498-1503). IEEE.
- Liu, C., Tong, J., Zou, Z. (2016). [LSI-based semantic retrieval model for scientific data in solar-terrestrial space field](#). Journal of University of Chinese Academy of Sciences.

## Project Experience

- PhD student, The University of Chicago
  - Jan. 2017-: *Global dictionary encoding for distributed system*. Design and implement emulator for different consensus protocol based one pass global dictionary encoding, add global dictionary feature into Parquet format to enhance compression ratio and query performance.
  - Jan. 2017- Aug. 2017: *Automatic load balancing for parallel data migration*. Design and implement configurable parallel data migration model, automatic load balancing for migration workload between databases.
  - Sep. 2016- Dec. 2016: *Replay of Deep Bugs in ZooKeeper with Semantic Aware Model Checking*. Implemented white-box model checking for ZooKeeper to replay the bug by using SAMC, made performance comparison with other black-box model checking approaches.
- Research Assistant, University of Chinese Academy of Sciences
  - Jul. 2014- Jul. 2016: *Intelligent cyberinfrastructure for multi-source science data discovery*. Integrated scientific data, designed and implemented the semantic retrieval system that using SVD method and Spark computing framework.
  - Dec. 2013-Sep. 2014: *Exploration and Research on the big data in education*. Deployed the cloud computing platform, designed and implemented the UCAS MOOC prototype and some adaptive learning study on it.
- Research Assistant, Beihang University
  - Mar. 2013-Jan. 2014: *Cloud computing-based map-matching for transportation data*. Designed and implemented algorithm that matches billions of GPS points on a certain road in a short time. The algorithm runs on the Hadoop.

- Aug. 2012-Apr. 2013: *The Research and Realization of Multi-Source Data Fusion for Traffic Information*. Proposed and implemented data fusion algorithm for multi-source traffic data using knowledge related to statistics and probability theory.
- Jun. 2011-Jan. 2012: *Urban transport planning, control and evaluation*. Designed and implemented the front page of the system using Flex and ArcGIS.
- Internship, Tencent, Inc.
  - Mar. 2012- Aug. 2012: Back-end Operation and Maintenance Group of Tencent Weibo. Designed and implemented PHP pages for the management system of Tencent Weibo.

## TA Experiences

- 2017 Spring: [\*Introduction to Computer Science II\*](#), University of Chicago
- 2017 Winter: [\*Parallel Computing\*](#), University of Chicago
- 2016 Autumn: [\*Operating Systems\*](#), University of Chicago
- 2015 Spring: [\*Mining Massive Data\*](#), University of Chinese Academy of Sciences.
- 2014 Autumn: [\*Computer Network\*](#), University of Chinese Academy of Sciences.

## Honors and Awards

- Outstanding Postgraduate Students Award, 2015
- Excellent Student Leader Scholarship, 2015
- Best Academic Poster Award, 2th National Postgraduate Xiangshan Forum in Information Engineering Field, 2014
- Outstanding Postgraduate Students Award, 2014
- UCAS Excellent Student Leadership Award, 2014
- Outstanding Graduates Award from Beihang University, 2013
- Merit Student of Beihang University for 2011-2012 academic year
- Third Level Prize of Mathematical Competition of Beihang University, 2010