

# Yifei Liu

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## RESEARCH INTERESTS

My research interests include distributed systems, file/storage systems, and machine learning for systems. I am currently looking for Computer Science Ph.D. openings in Fall 2019.

## EDUCATION

### Huazhong University of Science and Technology

Wuhan, Hubei, China

- Master of Science (M.Sc.) in Computer System Architecture Sep 2016 – Jun 2019 (Expected)
  - Advisor: Prof. Ke Zhou
  - Research areas: Distributed Systems, Storage Systems and Machine Learning Interaction, Graph Mining.
  - Cumulative GPA: 85.02 / 100 Rank: 13/53

### Huazhong Agricultural University

Wuhan, Hubei, China

- Bachelor of Engineering (B.Eng.) in Computer Science and Technology Sep 2012 – Jun 2016
  - Supervisors: Prof. Jianxiao Liu & Prof. Ruifang Zhai
  - Thesis: *Predicting Disk Failures based on Machine Learning Methods*
  - Cumulative GPA: 3.43 / 4.00 Major GPA: 3.79 / 4.00 Rank: 9/118

## EXPERIENCE

### Wuhan National Laboratory for Optoelectronics

Wuhan, Hubei, China

*Master Student/Research Assistant*

Sep 2016 – Now

- Design and implement a metadata system for integrating high-precision and low-latency semantic queries in storage systems using deep learning hash
- Propose a framework for assessing image “dark data” based on a novel semantic hash ranking (SHR) algorithm
- Perform theoretical analysis on hash-based graph and rank to facilitate graph-based rank algorithms and graph database operations

### Tencent

Shenzhen, Guangdong, China

*Backend Developer Intern*

Dec 2015 – Aug 2016

- Predict disk failures with collected disk data via machine learning algorithms for achieving both high precision and recall
- Build an infrastructure for collecting long-term disk S.M.R.A.T. data from over ten thousand servers in Tencent data centers
- Test cache replacement policies on Tencent real application traces

### Institute of Computing Technology, Chinese Academy of Sciences

Beijing, China

*Intern/Visiting Student*

Nov 2015 – Dec 2015

- Explore the correlation between Apache Spark and Java Garbage Collection (GC) parameters

### Chinasoft International

Guangzhou, Guangdong, China

*Front-end Student Intern*

Jul 2015 – Aug 2015

- Develop a catering website with my teammates using jQuery, AJAX, Java Servlet

### Huazhong Agricultural University

Wuhan, Hubei, China

*Undergraduate Research Assistant*

Nov 2014 – Jun 2015

- Propose a web service recommendation approach for organizing and recommending a set of correlated services using Bayesian Network Reasoning
- Design an image line detection algorithm for automatically measuring character parameters of the rapeseed plant
- Develop a GUI for counting the number of cotton cells in microscopic images (supported by College of Plant Sci. & Tech. of Huazhong Agricultural University)

## PUBLICATIONS

- [5] Yifei Liu, Yu Liu, Yangtao Wang, Ke Zhou and Yajuan Yang, “SwiftGraph: A Metadata Organization Approach for Enabling Semantic Queries in Storage Systems,” ***Under Review at International Parallel & Distributed Processing Symposium (IPDPS)***, 2019.

- [4] Yangtao Wang, Yu Liu, Yifei Liu, Ke Zhou and Yujuan Yang, “Analysis and Management to Hash-Based Graph and Rank,” **Under Review** at *International Conference on Database Theory (ICDT)*, 2019.
- [3] Yu Liu, Yangtao Wang, Ke Zhou, Guoliang Li, Yujuan Yang and Yifei Liu, “A Framework for Image Dark Data Assessment,” **Under Review** at *International Conference on Data Engineering (ICDE)*, 2019.
- [2] Jianxiao Liu, Zonglin Tian, Yifei Liu and Liang Zhao, “Research of Web Service Recommendation Using Bayesian Network Reasoning,” in *Proceedings of the International Conference on Services Computing (SCC)*, Seattle, WA, Jun 2018.
- [1] Pujuan Shi, Yifei Liu, Yihang Fang, Chengda Lin and Ruifang Zhai, “A new line detection algorithm - Automatic measurement of character parameter of rapeseed plant by LSD,” in *Proceedings of the 4th International Conference on Agro-Geoinformatics (Agro-Geoinformatics)*, Istanbul, Turkey, Jul 2015.

#### COMPETITION AWARDS

- Second Prize of National Postgraduate Mathematic Contest in Modeling  
Won the second-highest award of this contest, (1732/8894 ~19.47%) Dec 2016
- Finalist of Interdisciplinary Contest in Modeling, MCM/ICM, (USA)  
One of 52 awardees in the world. First winner of my university. (52/9773 ~0.53%) Apr 2015
- First Prize of National Postgraduate Mathematic Contest in Modeling  
Won the highest award of this contest, (120/4900 ~2.4%) Dec 2014
- First Prize of Contemporary Undergraduate Mathematical Contest in Modeling  
Won the highest award of this contest, (293/22233 ~1.3%) Nov 2014

#### ACADEMIC AWARDS

- Merit Graduate Student, Huazhong University of Science and Technology 2017 – 2019
- First-class Academic Scholarship 2016 – 2019
- Outstanding Graduate 2016
- First Scholarship for Study (~4/118) 2015
- Merit Undergraduate Student, Huazhong Agricultural University 2014 – 2016

#### SKILLS

##### TECHNICAL SKILLS

- Solid background in Storage Systems and Mathematical Modeling
- Proficient in C/C++/Python/MATLAB
- Familiar with Java/BASH/SQL/JavaScript
- Parallel Computing: Hadoop, Spark
- File and Storage: OpenStack Swift, HDFS, Redis, Extended File System (ext)
- Databases: HBase, SQL Server, MySQL
- Deep learning platforms: Caffe, TensorFlow
- Tools: Linux, git, gcc, gdb, pdb, Makefile, Scikit-learn, Sqoop, L<sup>A</sup>T<sub>E</sub>X

#### CERTIFICATION

Machine Learning (Stanford University), Coursera

#### REFERENCES

- **Ke Zhou**  
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School of Computer Science and Technology  
Huazhong University of Science and Technology  
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[CV compiled on 2018-11-08]