

## Kijung Shin

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CONTACT INFORMATION Dept. of Computer Science, GHC 9005 Carnegie Mellon University  
5000 Forbes Avenue  
Pittsburgh, PA 15213

Homepage: <http://kijungshin.com>  
Email: [kijungs@cs.cmu.edu](mailto:kijungs@cs.cmu.edu)

RESEARCH INTERESTS Graph Mining, Social Media Analysis, Big Data Analytics Systems, Tensor Analysis

EDUCATION **Carnegie Mellon University**, Pittsburgh, PA

PhD, Computer Science, Sep 2015 - Present

- Advisor: Prof. Christos Faloutsos

**Seoul National University**, Seoul, Korea

BS, Computer Science and Engineering, Sep 2015

BA, Economics (Double Major), Sep 2015

- GPA: 4.21/4.30 (First rank in College of Engineering, Summa Cum Laude)

WORK EXPERIENCE Research Intern (Part Time) at **Seoul National University** Jan 2015 to Jun 2015

- Advisor: Prof. Byung-Gon Chun
- Developed a distributed machine learning library on top of Apache REEF

Research Intern at **KAIST** Jan 2014 to Aug 2014

- Advisor: Prof. U Kang
- Developed scalable algorithms for random walk with restart and tensor factorization

Associate Researcher at **CYRAM** Jan 2011 to Dec 2013

- Supervisor: Mr. Ghi-Hoon Ghim
- Developed a social network analysis software (NetMiner 4), a criminal analysis software (NetExplorer 3), and a Twitter analysis and monitoring service (Sopion.com)

REFERRED JOURNAL PAPERS J3. Bryan Hooi, **Kijung Shin**, Hyun Ah Song, Alex Beutel, Neil Shah, and Christos Faloutsos, "Graph-Based Fraud Detection in the Face of Camouflage", TKDD. (Accepted)

J2. **Kijung Shin**, Lee Sael, and U Kang, "Fully Scalable Methods for Distributed Tensor Factorization", TKDE 2017.

J1. Jinhong Jung, **Kijung Shin**, Lee Sael, and U Kang, "Random Walk with Restart on Large Graphs Using Block Elimination", TODS 2016.

REFERRED CONFERENCE PAPERS C11. **Kijung Shin**, Bryan Hooi, Jisu Kim, and Christos Faloutsos, "DenseAlert: Incremental Dense-Subtensor Detection in Tensor Streams", KDD 2017. (To Appear)

C10. **Kijung Shin**, Euiwoong Lee, Dhivya Eswaran, and Ariel D. Procaccia, "Why You Should Charge Your Friends for Borrowing Your Stuff", IJCAI 2017. (To Appear)

C9. **Kijung Shin**, Bryan Hooi, Jisu Kim, and Christos Faloutsos, "D-Cube: Dense-Block Detection in Terabyte-Scale Tensors", WSDM 2017. (*SIGIR Student Travel Grant*)

C8. Jinoh Oh, **Kijung Shin**, Evangelos E. Papalexakis, Christos Faloutsos, and Hwanjo Yu, "S-HOT: Scalable High-Order Tucker Decomposition", WSDM 2017.

- C7. **Kijung Shin**, Tina Eliassi-Rad, and Christos Faloutsos, “CoreScope: Graph Mining Using k-Core Analysis - Patterns, Anomalies and Algorithms”, ICDM 2016.
- C6. **Kijung Shin**, Bryan Hooi, and Christos Faloutsos, “M-Zoom: Fast Dense-Block Detection in Tensors with Quality Guarantees”, ECML/PKDD 2016.
- C5. Bryan Hooi, Hyun Ah Song, Alex Beutel, Neil Shah, **Kijung Shin**, and Christos Faloutsos, “FRAUDAR: Bounding Graph Fraud in the Face of Camouflage”, KDD 2016. (*SIGKDD Best Research Paper Award*)
- C4. Hemank Lamba\*, Vaishnavh Nagarajan\*, **Kijung Shin\***, and Naji Shajarisales\*, “Incorporating Side Information in Tensor Completion”, WWW Companion 2016.
- C3. **Kijung Shin**, Jinhong Jung, Lee Sael, and U Kang, “BEAR: Block Elimination Approach for Random Walk with Restart on Large Graphs”, SIGMOD 2015. (*Samsung Humantech Paper Award, SIGMOD Student Travel Award*)
- C2. **Kijung Shin** and U Kang, “Distributed Methods for High-dimensional and Large-scale Tensor Factorization”, ICDM 2014. (*ICDM Student Travel Award*)
- C1. Dongyeop Kang, Woosang Lim, **Kijung Shin**, Lee Sael, and U Kang, “Data/Feature Distributed Stochastic Coordinate Descent for Logistic Regression”, CIKM 2014.

OTHER PAPERS

- O2. **Kijung Shin**, Tina Eliassi-Rad, and Christos Faloutsos, “Patterns and Anomalies in k-Cores of Real-world Networks”, NetSci 2017. (Abstract)
- O1. **Kijung Shin**, “Scalable Methods for Random Walk with Restart and Tensor Factorization”, Bachelor’s Thesis, Seoul National University, 2015. (*Excellent CSE Thesis Award*)

RELEASED SOFTWARE

- Dolphin** (<https://github.com/cmssnu/dolphin>) Jan 2015 to Jun 2015  
Distributed machine learning library on top of Apache REEF
- NetMiner** (<http://www.netminer.com>) Jan 2011 to Dec 2013  
Social network analysis software

AWARDS & HONORS

- ACM SIGKDD Best Research Paper Award Aug 2016
- Korea Foundation for Advanced Studies Scholarship 2015 to 2020
- Excellent CSE Thesis Award, Seoul National University Aug 2015
- Samsung Humantech Paper Award (Gold Prize, 1st in Computer Science) Feb 2015
- Kwanjeong Educational Foundation Scholarship 2010, 2014, 2015
- Best Term Paper Award, Seoul National University Feb 2010
- Scholarship for Superior Academic Performance, Seoul National University 2009
- National Science & Technology Scholarship, Korea Scholarship Foundation 2008

TEACHING EXPERIENCE

- Teaching Assistant of Graduate Artificial Intelligence (CMU 15-780) Spring 2017

GRADUATE COURSEWORK

- Spectral Graph Theory and the Laplacian Paradigm (CMU 15-859N) Fall 2016
- Types and Programming Languages (CMU 15-814) Fall 2016
- Graduate Artificial Intelligence (CMU 15-780) Spring 2016
- Multimedia Databases and Data Mining (CMU 15-826) Spring 2016
- Adv. Intro. to Machine Learning (CMU 10-715) Fall 2015
- Algorithms in the Real World (CMU 15-853) Fall 2015

ONLINE	Machine Learning & Artificial Intelligence	
COURSEWORK	<ul style="list-style-type: none"> <li>• Scalable Machine Learning (edX)</li> <li>• Statistical Learning (Stanford Online)</li> <li>• Artificial Intelligence for Robotics (Udacity)</li> <li>• Introduction to Artificial Intelligence (Udacity)</li> <li>• Machine Learning (Coursera)</li> </ul>	<p>Aug 2015</p> <p>Apr 2014</p> <p>Apr 2012</p> <p>Dec 2011</p> <p>Dec 2011</p>
	Data Mining & Social Network Analysis	
	<ul style="list-style-type: none"> <li>• Introduction to Recommender Systems (Coursera)</li> <li>• Networks, Crowds, and Markets (edX)</li> <li>• Social Network Analysis (Coursera)</li> <li>• Networked Life (Coursera)</li> </ul>	<p>Aug 2015</p> <p>May 2014</p> <p>Nov 2012</p> <p>Oct 2012</p>
TECHNICAL	Programming Languages	
SKILLS	<ul style="list-style-type: none"> <li>• Java (Advanced) / Python, C (Experienced) / C++, MATLAB (Intermediate)</li> </ul>	
	Big Data Platforms and Databases	
	<ul style="list-style-type: none"> <li>• Hadoop, REEF, MySQL (Experienced) / Oracle database (Intermediate)</li> </ul>	
REFERENCES	Available on request	