

## Kijung Shin

---

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 Sep 2015 - Present  
PhD in Computer Science  
Advisor: Prof. Christos Faloutsos

**Carnegie Mellon University**, Pittsburgh, PA Dec 2017  
MS in Computer Science

**Seoul National University**, Seoul, Korea Aug 2015  
BS in Computer Science and Engineering  
BA in Economics (Double Major)  
GPA: 4.21/4.30 (Ranked 1st in College of Engineering, Summa Cum Laude)

WORK EXPERIENCE **LinkedIn Corporation**, Sunnyvale, CA May 2017 to Aug 2017  
Machine Learning and Relevance Engineer Intern  
Mentors: Dr. Mahdi Shafiei and Dr. Myunghwan Kim  
Developed a model and a scalable algorithm for progression-stage learning

**Seoul National University**, Seoul, Korea Jan 2015 to Jun 2015  
Research Intern (Part Time)  
Advisor: Prof. Byung-Gon Chun  
Developed a distributed machine learning library on top of Apache REEF

**KAIST**, Daejeon, Korea Jan 2014 to Aug 2014  
Research Intern  
Advisor: Prof. U Kang  
Developed scalable algorithms for random walk with restart and tensor factorization

**CYRAM**, Seoul, Korea Jan 2011 to Dec 2013  
Associate Researcher  
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 J5. [Kijung Shin](#), Tina Eliassi-Rad, and Christos Faloutsos, "Patterns and Anomalies in k-Cores of Real-world Graphs with Applications", KAIS 2018 (*Special Issue on Selected Papers from ICDM 2016*).

J4. [Kijung Shin](#), Bryan Hooi, and Christos Faloutsos, "Fast, Accurate and Flexible Algorithms for Dense Subtensor Mining", TKDD 2018.

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 2017. (*Special Issue on the Best Papers from KDD 2016*)

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
- C14. [Kijung Shin](#), Mohammad Hammoud, Euiwoong Lee, Jinoh Oh, and Christos Faloutsos, “Tri-Fly: Distributed Estimation of Global and Local Triangle Counts in Graph Streams”, PAKDD 2018. (To Appear)
- C13. [Kijung Shin](#), Mahdi Shafiei, Myunghwan Kim, Aastha Jain, and Hema Raghavan, “Discovering Progression Stages in Trillion-Scale Behavior Logs”, WWW 2018. (Industry Track) (To Appear)
- C12. [Kijung Shin](#), “WRS: Waiting Room Sampling for Accurate Triangle Counting in Real Graph Streams”, ICDM 2017.
- C11. Hemank Lamba, Bryan Hooi, [Kijung Shin](#), Christos Faloutsos, and Jürgen Pfeffer, “ZooRank: Ranking Suspicious Entities in Time-Evolving Tensors”, ECML/PKDD 2017.
- C10. [Kijung Shin](#), Bryan Hooi, Jisu Kim, and Christos Faloutsos, “DenseAlert: Incremental Dense-Subtensor Detection in Tensor Streams”, KDD 2017.
- C9. [Kijung Shin](#), Euiwoong Lee, Dhivya Eswaran, and Ariel D. Procaccia, “Why You Should Charge Your Friends for Borrowing Your Stuff”, IJCAI 2017. (*Featured in New Scientist*)
- C8. [Kijung Shin](#), Bryan Hooi, Jisu Kim, and Christos Faloutsos, “D-Cube: Dense-Block Detection in Terabyte-Scale Tensors”, WSDM 2017. (*SIGIR Student Travel Grant*)
- C7. Jinoh Oh, [Kijung Shin](#), Evangelos E. Papalexakis, Christos Faloutsos, and Hwanjo Yu, “S-HOT: Scalable High-Order Tucker Decomposition”, WSDM 2017.
- C6. [Kijung Shin](#), Tina Eliassi-Rad, and Christos Faloutsos, “CoreScope: Graph Mining Using k-Core Analysis - Patterns, Anomalies and Algorithms”, ICDM 2016.
- C5. [Kijung Shin](#), Bryan Hooi, and Christos Faloutsos, “M-Zoom: Fast Dense-Block Detection in Tensors with Quality Guarantees”, ECML/PKDD 2016.
- C4. 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*)
- 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
- O3. [Kijung Shin](#), Tina Eliassi-Rad, and Christos Faloutsos, “Patterns and Anomalies in k-Cores of Real-world Networks”, NetSci 2017. (Abstract)
- O2. Hemank Lamba\*, Vaishnavh Nagarajan\*, [Kijung Shin](#)\*, and Naji Shajarisales\*, “Incorporating Side Information in Tensor Completion”, WWW Companion 2016.
- 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	<b>Dolphin</b> ( <a href="https://github.com/cmssnu/dolphin">https://github.com/cmssnu/dolphin</a> ) Distributed machine learning library on top of Apache REEF	Jan 2015 to Jun 2015
	<b>NetMiner</b> ( <a href="http://www.netminer.com">http://www.netminer.com</a> ) Social network analysis software	Jan 2011 to Dec 2013
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
PROFESSIONAL SERVICES	Journal Reviews	
	IEEE Signal Processing Letters (SPL)	2017
	IEEE/ACM Transactions on Networking (ToN)	2017
INVITED TALKS	Mining Large Dynamic Graphs and Tensors	
	KAIST, Daejeon, Korea	Jan 2017
	Naver Corporation, Seongnam, Korea	Jan 2017
TEACHING EXPERIENCE	Teaching Assistant of 10-601 Introduction to Machine Learning	Fall 2017
	Instructor: Prof. Tom Mitchell	
	Teaching Assistant of 15-780 Graduate Artificial Intelligence	Spring 2017
	Instructors: Prof. Zico Kolter and Prof. Ariel Procaccia	
GRADUATE COURSEWORK	15-859N Spectral Graph Theory and the Laplacian Paradigm	Fall 2016
	15-814 Types and Programming Languages	Fall 2016
	15-780 Graduate Artificial Intelligence	Spring 2016
	15-826 Multimedia Databases and Data Mining	Spring 2016
	10-715 Advanced Introduction to Machine Learning	Fall 2015
	15-853 Algorithms in the Real World	Fall 2015
REFERENCES	Available on request	