

David (Yoon Suk) Kang

Contact

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Research Interests

Network Analysis

- Keywords: Community Detection, Network Embedding
- Selected Publications: KBS'22 [J03], IEEE ICDM'21 [C07], ACM CIKM'20 [C06]

Datamining on SSDs

- Keywords: Performance Estimation, IO Trace Analysis
- Selected Publications: IEEE TC'21 [J02], ACM CIKM'17 [C05], ACM SAC'16 [C04], IJCS'16 [J01]

Education

Hanyang University, Seoul, Korea
Ph.D. in Computer Science

Mar. 2013 – Feb. 2022

- Thesis: Graph Reinforcement for Accurate Community Detection and Embedding on Graphs and Hypergraphs
- Advisor: Prof. Sang-Wook Kim

Hanyang University, Seoul, Korea
B.S. in Computer Science

Mar. 2007 – Feb. 2013

Research Experience

University of Michigan, MI, USA
Postdoctoral Researcher

May. 2022 – Current

- Laboratory: Foreseer Group
- Invited by: Prof. Qiaozhu Mei (qmei@umich.edu)

Pennsylvania State University, PA, USA
Visiting Scholar

Nov. 2019 – Feb. 2020

- Laboratory: Penn State Information, Knowledge, and Web Research Group
- Invited by: Prof. Dongwon Lee (dongwon@psu.edu)

Publications

ON-GOING WORKS

- [C] STAR^{GCN}: Graph Convolutional Network for Semi-Supervised Learning on Hypergraphs
Yoonsuk Kang*, Eujeanne Kim*, Kyungsik Han, and Sang-Wook Kim
In preparation for submitting at the ACM Web Conference (**WWW**)
- [J] A Framework for Accurate Community Detection on Signed Networks Using Adversarial Learning
Yoonsuk Kang, Woncheol Lee, Yeon-Chang Lee, Kyungsik Han, and Sang-Wook Kim
IEEE Transactions on Knowledge and Data Engineering (Under Revision)

INTERNATIONAL CONFERENCES (* indicates equal contribution)

- [C07] Adversarial Learning of Balanced Triangles for Accurate Community Detection on Signed Networks
Yoonsuk Kang*, Woncheol Lee*, Yeon-Chang Lee, Kyungsik Han, and Sang-Wook Kim
IEEE International Conference on Data Mining (**ICDM**)

- [C06] CR-Graph: Community Reinforcement for Accurate Community Detection
Yoonsuk Kang, Jun-Seok Lee, Won-Yong Shin, and Sang-Wook Kim
ACM International Conference on Information and Knowledge Management (**CIKM**)
- [C05] A Framework for Estimating Execution Times of IO Traces on SSDs
Yoonsuk Kang, Yong-Yeon Jo, Jaehyuk Cha, Wan. D. Bae, and Sang-Wook Kim
ACM International Conference on Information and Knowledge Management (**CIKM**)
- [C04] A Methodology for Estimating Execution Times of IO Traces in SSDs
Yoonsuk Kang
ACM International Symposium on Applied Computing (**SAC**)
- [C03] Exploiting the uFLIP Benchmark for Analyzing SSDs Performance
Yoonsuk Kang, Yong-Yeon Jo, Jaehyuk Cha, Sang-Wook Kim, and Young Kyun Shin
IEEE International Conference on Network Infrastructure and Digital Content (**IC-NIDC**) (**Best Paper Award**)
- [C02] Running Data Mining Algorithms on SSDs
Yoonsuk Kang, Yong-Yeon Jo, Duck-Ho Bae, and Sang-Wook Kim
International Conference on Emerging Databases-Technologies, Applications, and Theory (**EDB**)
- [C01] Selecting Similar Users in Collaborative Filtering
Sang-Chul Lee, **Yoonsuk Kang**, Seihyun Jeong, Min-Hee Jang, Young-Sup Hwang, and Sang-Wook Kim
International Conference on Green and Human Information Technology (**ICGHIT**)

INTERNATIONAL JOURNALS

- [J03] Community Reinforcement: An Effective and Efficient Preprocessing Method for Accurate Community Detection
Yoonsuk Kang, Jun-Seok Lee, Won-Yong Shin, and Sang-Wook Kim
Knowledge-Based Systems (2022)
- [J02] FORESEE: An Effective and Efficient Framework for Estimating the Execution Times of IO Traces on the SSD
Yoonsuk Kang, Yong-Yeon Jo, Jaehyuk Cha, Wan D. Bae, Wonjun Lee, and Sang-Wook Kim
IEEE Transactions on Computers (2021)
- [J01] The uFLIP Benchmark Revisited for Evaluating SSDs
Yoonsuk Kang, Yong-Yeon Jo, Jaehyuk Cha, Sang-Wook Kim, and Young Kyun Shin
International Journal of Communication Systems (2016) (**Invited**)

Honors & Awards	Best Ph.D. Dissertation Award	2022
	HYU Research Institute of Industrial Science	
	Naver Ph.D. Fellowship	2021
	Naver Corporation	
	Best Paper Award	2021
	Spring Conference of the KIPS	
	ACM SIGIR Student Travel Award	2020
	ACM International Conference on Information and Knowledge Management	
	ACM SIGIR Student Travel Award	2017
	ACM International Conference on Information and Knowledge Management	
	ACM SIGAPP Student Travel Award	2016
	ACM International Symposium on Applied Computing	
	HYU&NHN Ph.D. Fellowship	2015
	NHN Corporation	

	Best Paper Award	2014
	IEEE International Conference on Network Infrastructure and Digital Content	

**Academic
Services**

Program Committee Member	
• ACM Symposium on Applied Computing (SAC)	2023

External Reviewer	
• IEEE International Conference on Data Mining (ICDM)	2022
• ACM International Conference on Knowledge Discovery and Data Mining (KDD)	2022
• ACM International Conference on Knowledge Discovery and Data Mining (KDD)	2021
• ACM International Conference on Information and Knowledge Management (CIKM)	2020
• ACM International Conference on Information and Knowledge Management (CIKM)	2019