Jinhong Jung

Contact

Data Science Laboratory
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Jeonbuk National University
567 Baekje-daero, Deokjin-gu, Jeonju
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Homepage: **https://jinhongjung.github.io**
Github: **https://github.com/jinhongjung**

Education

Doctor of Philosophy, Computer Science and Engineering — Feb. 2020
Seoul National University
Thesis: Random Walk-based Large Graph Mining Exploiting Real-world Graph Properties
Advisor: Prof. U Kang

Master of Science, Computer Science — Aug. 2015
Korea Advanced Institute of Science and Technology
Advisor: Prof. U Kang

Bachelor of Science, Computer Science and Engineering — Feb. 2014
Jeonbuk National University

Research Interests

Graph Machine Learning, Large-scale Graph Analytics, Applied Data Science

Work Experience

Assistant Professor, Division of Computer Science and Engineering — Sep.2020 — Present
Jeonbuk National University

Postdoctoral Researcher, Data Mining Lab. — Mar. 2020 — Aug. 2020
Seoul National University

Sergeant, Central Computer Center — Nov. 2008 — Dec. 2011
38th Fighter Group of the Republic of Korea Air Force

Awards & Honors

AAAI-21 Outstanding Program Committee Award @ AAAI	Feb. 2021
BK21 Plus Excellent Research Award @ SNU	Aug. 2018
Humantech Paper Award (Honorable Mention, Co-author) @ Samsung	Feb. 2018
Humantech Paper Award (Silver Prize) @ Samsung	Feb. 2017
Global Ph.D. Fellowship Program @ NRF	Mar. 2016 — Feb. 2019
ACM SIGKDD Student Travel Award @ ACM	Jun. 2016
Naver Ph.D. Fellowship Award @ NAVER	Apr. 2016
ACM SIGMOD Student Travel Award @ ACM	Jun. 2015
Humantech Paper Award (Gold Prize, Co-author) @ Samsung	Feb. 2015
National Scholarship @ KAIST	2014 — 2015
National Science & Technology Scholarship @ KSF	2012 — 2013

PUBLICATIONS

Refereed Journal Papers

[J01] **Jinhong Jung**, Kijung Shin, Lee Sael, and U Kang, "Random Walk with Restart on Large Graphs Using Block Elimination", ACM Transaction on Database Systems (TODS), vol. 41, issue 2, pp. 12:1-12:43, June 2016.

[J02] Woojeong Jin, **Jinhong Jung**, and U Kang, "Supervised and Extended Restart in Random Walks for Ranking and Link Prediction in Networks", PLOS ONE, 14(3): e0213857, Mar. 2019.

[J03] **Jinhong Jung**, Woojeong Jin, and U Kang, "Random Walk Based Ranking in Signed Social Networks: Model and Algorithms", Knowledge and Information Systems (KAIS), Springer, pp. 1-40, May 2019.

[J04] **Jinhong Jung**, Woojeong Jin, Hy-myung Park, and U Kang, "Accurate Relational Reasoning in Edge-labeled Graphs by Multi-Labeled Random Walk with Restart", World Wide Web Journal (WWWJ), May 2020.

[J05] **Jinhong Jung**, and Lee Sael, "Fast and Accurate Pseudoinverse with Sparse Matrix Reordering and Incremental Approach", Machine Learning 109: 2333-2347, Dec 2020.

[J06] Junghun Kim, **Jinhong Jung**, and U Kang, "Compressing Deep Graph Convolution Network With Multi-staged Knowledge Distillation", PLoS ONE 16(8): e0256187, Aug 2021.

[J07] **Jinhong Jung**, Jaemin Yoo, and U Kang, "Signed Random Walk Diffusion for Effective Representation Learning in Signed Graphs", PLoS ONE 16(8): e0256187, Mar 2022.

Refereed Conference Papers

[C01] Kijung Shin, **Jinhong Jung**, Lee Sael, and U Kang, "BEAR: Block Elimination Approach for Random Walk with Restart on Large Graphs", ACM International Conference on Management of Data (SIGMOD) 2015, Melbourne, Australia.

[C02] **Jinhong Jung**, Woojeong Jin, Lee Sael, and U Kang, "Personalized Ranking in Signed Networks using Signed Random Walk with Restart", IEEE International Conference on Data Mining (ICDM) 2016, Barcelona, Spain.

[C03] **Jinhong Jung**, Namyong Park, Lee Sael, and U Kang, "BePI: Fast and Memory-Efficient Method for Billion-Scale Random Walk with Restart", ACM International Conference on Management of Data (SIGMOD) 2017, Chicago, IL, USA.

[C04] Kyung-min Kim, **Jinhong Jung**, Jihee Ryu, Ha-Myung Park, Joseph P. Joohee, Seokwoo Jeong, U Kang, Sung-Hyon Myaeng, "A New Question Answering Approach with Conceptual Graphs", Confrence en Recherche d'Informations et Applications - 14th French Information Retrieval Conference (CORIA) 2017, Marseille, France.

[C05] Haekyu Park, **Jinhong Jung**, and U Kang, "A Comparative Study of Matrix Factorization and Random Walk with Restart in Recommender Systems", IEEE International Conference on Big Data (BigData) 2017, Boston, USA.

[C06] Minji Yoon, **Jinhong Jung**, and U Kang, "TPA: Fast, Scalable, and Accurate Method for Approximate Random Walk with Restart on Billion Scale Graphs", 34th IEEE International Conference on Data Engineering (ICDE) 2018, Paris, France.

[C07] Jun-gi Jang, Dongjin Choi, **Jinhong Jung**, and U Kang, "Zoom-SVD: Fast and Memory Efficient Method for Extracting Key Patterns in an Arbitrary Time Range", ACM International Conference on Information and Knowledge Management (CIKM) 2018, Lingotto, Turin, Italy.

[C08] **Jinhong Jung**, Ha-Myung Park, and U Kang, "BalanSiNG: Fast and Scalable Generation of Realistic Signed Networks", 23rd International Conference on Extending Database Technology (EDBT) 2020, Copenhagen, Denmark.

[C09] Jaehun Jung, **Jinhong Jung**, and U Kang, "Learning to Walk across Time for Interpretable Temporal Knowledge Graph Completion", ACM International Conference on Knowledge Discovery and Data Mining (SIGKDD) 2021.

Domestic Conference or Journal Papers

[O01] Woojeong Jin, **Jinhong Jung**, and U Kang, "Recommender System based on Graph Ranking using Random Walk", Communications of the Korean Institute of Information Scientists and Engineers (KIISE) 2016.

[O02] Minkyung Lee, **Jinhong Jung**, and U Kang, "Improving Accuracy of Recommendation System through Active Recommendation", Communications of Korean Institute of Information Scientists and Engineers (KIISE) 2016.

PROFESSIONAL SERVICES

Program Committee Member

[R01] AAAI Conference on Artificial Intelligence (AAAI)
    – 2021

[R02] International Conference on Big Data and Smart Computing (BigComp)
    – 2021

[R03] The Web Conference (TheWebConf)
    – 2022

Conference Reviews

[R01] International Conference on Knowledge Discovery and Data Mining (KDD)
    – 2016, 2017, 2018, 2019, 2020

[R02] The Web Conference (TheWebConf, formerly WWW)
    – 2016, 2017, 2018, 2019

[R03] IEEE International Conference on Data Mining (ICDM)
    – 2015, 2018, 2019

[R04] International Conference on Web Search and Data Mining (WSDM)
    – 2018, 2019

[R05] International Conference on Information and Knowledge Management (CIKM)
    – 2016, 2017, 2018, 2019

[R06] Symposium on Applied Computing (ACM SAC)
    – 2016, 2017, 2018, 2019, 2020

[R07] European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
    – 2016, 2017

[R08] International Conference on Big Data and Smart Computing (BigComp)
    – 2016, 2018, 2020

[R09] International Conference on Data Science and Advanced Analytics (DSAA)
    – 2016

[R10] International Conference on Big Data (IEEE BigData)
    – 2015

PATENTS

[P01] **Jinhong Jung**, Ha-Myung Park, and U Kang, "Apparatus and Method for Generating Signed Network."
    – Application number: 10-2019-0146716   filed on Nov. 15, 2019

[P02] **Jinhong Jung**, Woojeong Jin, and U Kang, "Method and Apparatus for Fast Personalized Ranking Using Block Elimination in Signed Social Networks."
    – Application number: 10-2018-0149677   filed on Nov. 28, 2018

[P03] **Jinhong Jung**, Woojeong Jin, Ha-Myung Park, and U Kang "Method and Apparatus for Measuring Relevance Between Nodes of Edge-labeled Multigraph."
    – Application number: 10-2018-0150180   filed on Nov. 28, 2018

[P04] Jun-Gi Jang, Dongjin Choi, **Jinhong Jung**, and U Kang, "Apparatus and Method For Processing Data."
    – Application number: 10-2018-0007389   filed on Jan. 19, 2018

[P05] Minji Yoon, **Jinhong Jung**, and U Kang, "Method and Apparatus for Efficient Node Proximity Computation for Large Graphs."
– PCT application number: PCT/KR2017/012962   filed on Nov. 18, 2017

[P06] Woojeong Jin, **Jinhong Jung**, and U Kang, "Method and Apparatus for Providing Supervised and Extended Restart in Random Walks for Ranking and Link Prediction in Networks."
– Application number: 10-2017-0149941   filed on Nov. 10, 2017
– Registration number: 10-2048442   registered on Nov. 19, 2019

[P07] **Jinhong Jung**, Woojeong Jin, and U Kang, "Method for Personalized Ranking in Signed Networks, Recording Medium And Device for Performing the Method."
– Application number: 10-2017-0005485   filed on Jan. 12, 2017
– Registration number: 10-1866866   registered on Jun. 05, 2018

[P08] **Jinhong Jung**, Namyong Park, and U Kang, "Method and Apparatus for Performing Graph Ranking."
— Application number: 10-2016-0183757   filed on Dec. 30, 2016
— Registration number: 10-1946692   registered on Jan. 31, 2019

[P09] **Jinhong Jung**, Minwoo Kim, and Il-Seok Oh, "Apparatus for Recognizing Color Channel Code."
— Application number: 10-2012-0028924   filed on Mar. 2012
— Registration number: 10-1288754   registered on Jul. 2013

Talks

[T01] Fast Random Walk with Restart on Large Graphs using Block Elimination, Naver Labs, Korea, Jul. 2016.

[T02] BePI: Fast and Memory-Efficient Method for Billion-Scale Random Walk with Restart, KCC, Korea, Jun. 2017.

[T03] Personalized Ranking in Signed Networks using Signed Random Walk with Restart, NC, Korea, Jan. 2019.

[T04] Machine Learning with Graphs, KCC, Korea, Jul. 2020

Teaching Experience

Instructor

• JBNU Algorithm	Spring 2022
• JBNU C++ Programming	Fall 2021
• JBNU Data Structure	Fall 2021
• JBNU Algorithm	Spring 2021
• JBNU Data Structure	Fall 2020

Teaching Assistant

• SNU M2177.004900 Theory and Lab of IoT, AI, and Big Data	Fall 2019
• SNU M2177.004900 Theory and Lab of IoT, AI, and Big Data	Fall 2019
• SNU M2177.004900 Theory and Lab of IoT, AI, and Big Data	Spring 2019
• SNU M2177.004900 Theory and Lab of IoT, AI, and Big Data	Fall 2018
• SNU 4190.209 Computer Engineering Seminar	Fall 2016
• SNU M1522.001400 Introduction to Data mining	Spring 2016
• SNU M1522.000900 Data Structure	Fall 2015
• KAIST CS420 Complier Design	Spring 2015
• KAIST CS996 2014 Fall Colloquium	Fall 2014

Mentoring

Undergraduate Students

• Geonwoo Ko	May. 2021 - Present
• Taesoo Kim	May. 2021 - Present
• Jongwhi Lee	May. 2021 - Present

- Keonwoo Ro MAY. 2021 - FEB. 2022

M.S. Committees
- Jonghyeon Lee DEC. 2021