Jinhong Jung

Contact

Data Mining Laboratory
Building 301 #519
Seoul National University
1, Gwanak-ro, Gwanak-gu, Seoul
Republic of Korea 08826

Phone: +82−2−880−7263
Email: **jinhongjung@snu.ac.kr**
Homepage: **https://datalab.snu.ac.kr/~jinhong**
Github: **https://github.com/jinhongjung**

Education

Ph.D Candidate, Computer Science and Engineering Sep. 2015 - Present
Seoul National University
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
Cheonbuk National University

Research Interests

Large-scale Graph Mining, Social Media Analysis, Graph Ranking, Graph Modeling, Signed Network Analysis

Publications

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.

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] **Jinhong Jung**, Woojeong Jin, and U Kang, "Random Walk Based Ranking in Signed Social Networks: Model and Algorithms", Knowledge and Information Systems (KAIS), 2019 (to appear).

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.

PATENTS

Domestic Patents

[P01] U Kang, **Jinhong Jung**, and Namyong Park, "Method and Apparatus for Performing Graph Ranking" (filed on Dec. 30, 2016)

[P02] U Kang, **Jinhong Jung**, and Woojeong Jin, "Method for Personalized Ranking in Signed Networks, Recording Medium And Device for Performing the Method" (filed on Jan. 12, 2017)

[P03] U Kang, Woojeong Jin, and **Jinhong Jung**, "Method and Apparatus for Providing Supervised and Extended Restart in Random Walks for Ranking and Link Prediction in Networks" (filed on Nov. 10, 2017)

[P04] U Kang, Minji Yoon, **Jinhong Jung**, "Method and Apparatus for Efficient Node Proximity Computation for Large Graphs" (filed on Nov. 18, 2017)

[P05] U Kang, Jun-Gi Jang, Dongjin Choi, and **Jinhong Jung**, "Apparatus and Method For Processing Data", Korean patent number: 10-2018-0007389 (filed on Jan. 19, 2018)

[P06] U Kang, **Jinhong Jung**, and Woojeong Jin, "Method and Apparatus for Fast Personalized Ranking Using Block Elimination in Signed Social Networks", Korean patent number: 10-2018-0149677 (filed on Nov. 28, 2018)

[P07] U Kang, **Jinhong Jung**, Woojeong Jin, and Ha-Myung Park, "Method and Apparatus for Measuring Relevance Between Nodes of Edge-labeled Multigraph", Korean patent number: 10-2018-0150180 (filed on Nov. 28, 2018)

AWARDS
& HONORS

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

PROFESSIONAL SERVICES

Conference Reviews

[R01] ACM International World Wide Web Conference (WWW), 2019.
[R02] ACM Symposium on Applied Computing (ACM SAC), 2019.
[R03] ACM International Conference on Web Search and Data Mining (WSDM), 2019
[R04] IEEE International Conference on Data Mining (ICDM), 2018.
[R05] ACM International Conference on Information and Knowledge Management (CIKM), 2018
[R06] ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2018
[R07] ACM International World Wide Web Conference (WWW), 2018.
[R08] ACM Symposium on Applied Computing (ACM SAC), 2018.
[R09] IEEE International Conference on Big Data and Smart Computing (BigComp), 2018.
[R10] ACM International Conference on Web Search and Data Mining (WSDM), 2018
[R11] ACM International Conference on Information and Knowledge Management (CIKM), 2017
[R12] European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2017
[R13] ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2017
[R14] ACM Symposium on Applied Computing (ACM SAC), 2017.
[R15] IEEE International Conference on Data Science and Advanced Analytics (DSAA), 2016
[R16] ACM International Conference on Information and Knowledge Management (CIKM), 2016
[R17] European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2016
[R18] ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2016
[R19] ACM International World Wide Web Conference (WWW), 2016.
[R20] IEEE International Conference on Big Data and Smart Computing (BigComp), 2016.
[R21] ACM Symposium on Applied Computing (ACM SAC), 2016.
[R22] IEEE International Conference on Big Data (IEEE BigData), 2015.
[R23] IEEE International Conference on Data Mining (ICDM), 2015.

PROJECTS

Ongoing Projects

[P01] Exobrain: Development of Core Technology for Context-aware Deep-Symbolic Hybrid Learning and Construction of Language Resources, IITP, Deajeon, Republic of Korea

- 2017: *#question-answering-system, #partial-subgraph-matching, #java*
- 2018: *#question-answering-system, #partial-subgraph-matching, #java*
- 2019: *#question-answering-system, #partial-subgraph-matching, #java*

[P02] Knowledge Based News Map Generation, NC soft, Seongnam, Republic of Korea

- 2018: *#information-overloading, #news-map, #python*

[P03] Fast Ranking in Large-scale Graphs via Link Analysis, NRF, Deajeon, Republic of Korea

- MAR. 2016 - FEB. 2017: We designed a novel personalized node ranking model SRWR for obtaining a personalized node ranking in signed social networks.
- MAR. 2017 - FEB. 2018: We proposed a fast and memory-efficient method BEPI for computing Random Walk with Restart in billion-scale graphs.
- MAR. 2018 - FEB. 2019: We developed a fast and efficient method for computing SRWR scores in signed social networks.

Previous Projects

[P01] Personalized Recommendation on Office Social Networks, Hancom, Seongnam, Republic of Korea

- Oct. 2014 - Sep. 2015: We implemented an efficient and scalable method for personalized recommentation based on random walk in graphs.

[P02] Personalized Recommendation on Credit Card Benefits, Hyundai Card, Seoul, Republic of Korea

- Jun. 2016 - Dec. 2016: We deveolped methods for personalized recommentation based on coupled matrix factorization and various user and history data on credit card benefits.

[P03] Exobrain: Development of Core Technology for Human-like Self-taught Learning based on a Symbolic Approach, IITP, Deajeon, Republic of Korea

- 2014: *#question-answering-system, #partial-subgraph-matching*
- 2015: *#question-answering-system, #partial-subgraph-matching*
- 2016: *#question-answering-system, #partial-subgraph-matching*

[P04] Event Retrieval and Mining from Unstructured Texts, NC soft, Seongnam, Republic of Korea

- May. 2017 - Mar. 2018: We designed models for representing news events and developed methods for filling missing entries from news events. Also, we developed methods for searching relation synonyms using latent node representation techniques.

WORK EXPERIENCE	**Undergraduate Research Assistant**, Computer Vision Lab Chonbuk National University	Aug. 2012 - Dec. 2013

- Developed a library for Colored QR Code system

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

- Served for information system management and development

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.

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

GRADUATE COURSEWORK	
430.707A Pattern Recognition @ SNU	Spring 2017
4190.771 Topics in Algorithms @ SNU	Spring 2017
430.709A Optimization Theory and Applications @ SNU	Fall 2016

M1522.000500 Information Visualization and Visual Analytics @ SNU	Fall 2016
430.659 Topics in Computer and VLSI (Machine Learning) @ SNU	Spring 2016
4190.681 A Genetic Algorithm @ SNU	Spring 2016
4190.564-001 Advanced Database @ SNU	Fall 2015
CS665 Advanced Data Mining @ KAIST	Spring 2015
CC500 Scientific Writing @ KAIST	Spring 2015
CS492 Special Topics in Computer Science - Data Mining @ KAIST	Fall 2014
CS540 Network Architecture @ KAIST	Fall 2014
CS500 Algorithms: Design and Analysis @ KAIST	Spring 2014
CC511 Probability and Statistics @ KAIST	Spring 2014
CS570 Artificial Intelligence and Machine Learning @ KAIST	Spring 2014

Online Coursework

Machine Learning (Stanford University) @ Coursera	Nov. 2016
Machine Learning Specialization (University of Washington) @ Coursera	Mar. 2017

References

U Kang
Associate Professor
Department of Computer Science and Engineering
Seoul National University
Seoul, Republic of Korea
ukang@snu.ac.kr