

5. 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.
6. 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.
7. 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 (to appear).

Journals

1. 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.

Domestic conferences or journals

1. 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.
2. 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

1. U Kang, Jinhong Jung, and Namyong Park, Method and Apparatus for Performing Graph Ranking (filed on Dec. 30, 2016)
2. 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)
3. 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)
4. U Kang, Minji Yoon, Jinhong Jung, Method and Apparatus for Efficient Node Proximity Computation for Large Graphs (filed on Nov. 18, 2017)
5. 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)

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 - PRESENT
ACM SIGKDD Student Travel Award	JUN. 2016
Naver Ph.D. Fellowship Award , NAVER	APR. 2016
ACM SIGMOD Student Travel Award	JUN. 2015
Humantech Paper Award (Gold Prize, Co-author) , Samsung	FEB. 2015
National Scholarship , KAIST	2014 - 2015
National Science & Technology Scholarship , Korea Scholarship Foundation	2012 - 2013

PROFESSIONAL SERVICES

Conference Reviews

1. ACM International Conference on Web Search and Data Mining (WSDM), 2019

2. IEEE International Conference on Data Mining (ICDM), 2018.
3. ACM International Conference on Information and Knowledge Management (CIKM), 2018
4. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2018
5. ACM International World Wide Web Conference (WWW), 2018.
6. ACM Symposium on Applied Computing (ACM SAC), 2018.
7. IEEE International Conference on Big Data and Smart Computing (BigComp), 2018.
8. ACM International Conference on Web Search and Data Mining (WSDM), 2018
9. ACM International Conference on Information and Knowledge Management (CIKM), 2017
10. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2017
11. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2017
12. ACM Symposium on Applied Computing (ACM SAC), 2017.
13. IEEE International Conference on Data Science and Advanced Analytics (DSAA), 2016
14. ACM International Conference on Information and Knowledge Management (CIKM), 2016
15. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2016
16. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2016
17. ACM International World Wide Web Conference (WWW), 2016.
18. IEEE International Conference on Big Data and Smart Computing (BigComp), 2016.
19. ACM Symposium on Applied Computing (ACM SAC), 2016.
20. IEEE International Conference on Big Data (IEEE BigData), 2015.
21. IEEE International Conference on Data Mining (ICDM), 2015.

PROJECTS

Ongoing projects

1. 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*
2. Knowledge Based News Map Generation, NC soft, Seongnam, Republic of Korea
 - 2018: *#information-overloading, #news-map, #python*
3. 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 aim to develop a fast and efficient method for computing SRWR scores in signed social networks.

Previous projects

1. Personalized Recommendation on Office Social Networks, Hancom, Seongnam, Republic of Korea
 - OCT. 2014 - SEP. 2016: We implemented an efficient and scalable method for personalized recommendation based on random walk in graphs.
2. Personalized Recommendation on Credit Card Benefits, Hyundai Card, Seoul, Republic of Korea
 - JUN. 2016 - DEC. 2016: We developed methods for personalized recommendation based on coupled matrix factorization and various user and history data on credit card benefits.

3. 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*
4. 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 AUG. 2012 - DEC. 2013
Chonbuk National University
- Developed a library for Colored QR Code system
- Sergeant**, Central Computer Center NOV. 2008 - DEC. 2011
38th Fighter Group of the Republic of Korea Air Force
- Served for information system management and development

TALKS

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

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 Compiler 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

- Machine Learning Foundations: A Case Study Approach FEB. 2017
- Machine Learning: Regression MAR. 2017
- Machine Learning: Classification

REFERENCES

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