WOOJEONG JIN

CONTACT

Data Mining Laboratory
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RESEARCH INTERESTS

My research interest lies in large-scale data mining and machine learning, especially for social networks and the Web with a focus on developing computational frameworks and designing novel and scalable algorithms for analyzing large-scale datasets.

EDUCATION

Seoul National University, Seoul, Korea — MAR. 2010 - FEB. 2017
B.S. in Electrical and Computer Engineering (*Cum Laude*)

- GPA: $3.67/4.30$ (Upper: $3.96/4.30$, Major: $3.91/4.30$)
- 2-year absence to fulfill military duty (Oct. 2011 - July 2013).

PUBLICATIONS

Journals

1. Woojeong Jin, Jinhong Jung, and U Kang,"Supervised and Extended Restart in Random Walks for Ranking and Link Prediction in Networks," European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD). (Under review)
2. Jinhong Jung, Woojeong Jin, U Kang, and Lee Sael, "Ranking in Signed Social Networks: Model and Algorithms," Knowledge and Information Systems (KAIS). (Under revision)

Conferences

1. Minji Yoon, Woojeong Jin, and U Kang, "Fast and Accurate Random Walk with Restart on Dynamic Graphs with Guarantees," The Web Conference (WWW) 2018. (To appear)
2. Jinhong Jung, Woojeong Jin, and U Kang, "Relation Inference using Labeled Random Walk with Restart in Edge-labeled Graphs," Thirty-fifth International Conference on Machine Learning (ICML) 2018. (Under review)
3. 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.
4. 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.

PATENTS

1. Woojeong Jin, Jinhong Jung, and U Kang, "Method for Providing Supervised and Extended Restart in Random Walks for Ranking and Link Prediction in Networks," KR: 10-2017-0131543 (filed on Oct. 11, 2017).
2. Jinhong Jung, Woojeong Jin, U Kang, "Method for Personalized Ranking in Signed Networks, Recording Medium And Device for Performing the Method," KR: 10-2017-0005485 (filed on Jan. 12, 2017)

PROJECTS

Building Energy Optimization Technology based on Deep Learning and IoT
with Samsung Electronics Co., Ltd. — MAY 2016 - PRESENT

- Developed IoT sensor kits using Arduino Board.
- Developed multi-input CNN for real-time recognition of room occupancy and activity.

- Developed 3D CNN for temporal sensor data.
- Developed RNN for room occupancy and activity prediction.

RESEARCH & WORK EXPERIENCE

Researcher, Data Mining Lab. JAN. 2016 - PRESENT
Seoul National University

- Advisor: Prof. U Kang
- Proposed a novel algorithm for random walk with restart on signed networks (ICDM'16, KAIS).
- Proposed a dynamic RWR algorithm on dynamic graphs (WWW'18).
- Propose an extended RWR algorithm and a supervised learning algorithm for link prediction (in progress).
- Propose a labeled RWR algorithm on edge-labeled graphs (in progress).
- Design a local clustering algorithm on signed networks (in progress).
- Participate in developing algorithms for activity recognition and prediction for HVAC control (in progress).

Undergraduate Researcher, Data Science Lab. JAN. 2015 - JUNE 2015
Seoul National University

- Advisor: Prof. Sungroh Yoon
- Worked on comparisons between deep learning frameworks (Caffe, Cuda-convnet, and Theano) using Convolutional Neural Networks.

Research Intern, Creative Innovation Center JUNE 2014 - AUG. 2014
LG Electronics

- Assisted in developing the prototype of advanced smartphones.
- Tested application of a flexible display to smartphones.

Sergeant (E-5), 35th Air Defense Artillery Brigade OCT. 2011 - JULY 2013
Served as a Korean Augmentation To the United States Army (KATUSA)

- Information Technology Specialist (U.S. MOS 25B & R.O.K. MOS 175101)
- S-6, 35th Air Defense Artillery Brigade, 8th Army, U.S. Forces.
- Administered computers and network equipment including servers.

AWARDS & HONORS

National Scholarship for Science and Engineering, Korea Student Aid Foundation 2010
Merit-based Scholarship, SNU 2013, 2014, 2015

TECHNICAL SKILLS

Programming Languages

- C++, MATLAB (Advanced) / Java, Ocaml (Experienced) / Python, TensorFlow, HTML, PHP (Intermediate)

GRADUATE COURSEWORK

Pattern Recognition and Machine Learning (Audit) @ SNU SPRING 2017
Optimization Theory and Applications @ SNU FALL 2016

ONLINE COURSEWORK

Mining Massive Datasets @ Stanford Online JUNE 2017
Machine Learning (Stanford University) @ Coursera MAY 2016

REFERENCES

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