# Haekyu Park

## Contact

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## Research Interests

Data Mining, Graph Data Mining, Machine Learning, and Interpretable Machine Learning

## Education

**B.S., Computer Science and Engineering**                                      Mar. 2012 - Aug. 2017
 Seoul National University, Seoul, Republic of Korea, Graduated with honors (Cum Laude)

## Work Experience

**Research Intern**                                                             June 2016 - Present
 Advisor: Prof. U Kang
 Data Minig Lab at Seoul National University

## Publications

1. Junghwan Kim, Haekyu Park, Ji-eun Lee, and U Kang, **SIDE: Representation Learning in Signed Directed Networks**, The Web Conference (Previously known as WWW, World Wide Web Conference) 2018. (under review)

2. Haekyu Park, Hyunsik Jeon, Junghwan Kim, Beunguk Ahn, and U Kang, **UniWalk: Explainable and Accurate Recommendation for Rating and Network Data**, SIAM International Conference on Data Mining (SDM), 2018. (under review)

3. 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.

## Projects

1. **Recommender System on Videos of Oksusu Application**                        Present
   Keywords: Tensorflow, Sequence Embedding, Word Embedding, Approx. k-NN
   SK Telecom, Seoul, Republic of Korea

2. **A Fast and Cost Efficient Data Compression Algorithm with Shared Virtual Memory in Heterogeneous System Architecture**                                    2017
   Keywords: OpenCL, GPGPU, SVM, HSA
   Undergraduate thesis

3. **Personalized Recommendation on Credit Card Rewards** 2016
   Keywords: Coupled Matrix Factorization, Time Series Data
   Hyundai Card, Seoul, Republic of Korea

4. **Social Recommender System with Graph and Rating Information** 2016
   Keywords: Matrix Factorization, Network Embedding, Social Network
   Final project of Probabilistic Graphical Model course

## PATENTS

1. U Kang, Junghwan Kim, and <u>Haekyu Park</u>, Apparatus and Method for Representation Learning in Signed Directed Networks, Korean Patent 10-2017-0130914, 2017.

2. U Kang, <u>Haekyu Park</u>, Junghwan Kim, and Hyunsik Jeon, Explainable and Accurate Recommender Method and System using Social Network Information and Rating Information, Korean Patent 10-2017-0159167, 2017.

## AWARDS AND HONORS

**National Scholarship For Science and Engineering** 2015
 Merit-based

## GRADUATE COURSEWORK

Probabilistic Graphical Models @ Seoul National University Fall 2016

## TECHNICAL SKILLS

**Programming Languages**
  Advanced: Python, Java, C, C++
  Experienced: Matlab, Ocaml, Scheme, HTML

**Numerical Computing**
  Advanced: Numpy, SciPy, scikit-learn
  Experienced: Matlab

**Parallel Computing**
  Experienced: OpenCL

## EXTRACURRICULAR ACTIVITIES

1. Group study of statistics Sept. 2017 - Present
   With a book: "All of Statistics: A Concise Course in Statistical Inference", Larry Wasserman.

2. Private tutoring 2012 - Present
   - Programming languages (Python, Java, C, Scheme) for graduate students, undergraduate students, workers in brokerage firms, and a businessman.
   - Mathematics, Physics, and Chemistry for high school and elementary school students.

3. Tutoring
<span style="float:right">Jan. - Aug. 2015</span>

- General science for elementary school students.
  At Jungdae elementary school, Jamshin elementary school, Songjeon elementary school, and Daemyung elementary school in Seoul, Korea.

- Study habit for elementary school and middle school students.
  At Samsung Digital City in Suwon, Korea.

4. Buddy assistant
<span style="float:right">Feb. - Aug. 2014</span>

- In club SNU (Seoul National University) Buddy.

- Have become a friend with exchange students and helped them adapt to campus life and Korean culture.

- Organized programs to enjoy together such as welcoming party, temple stay, short trips within Korea, folk games night, and farewell party.