

# JUNGHWAN KIM

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## RESEARCH INTEREST

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Probabilistic Modeling, Variational Inference, Reinforcement Learning, Deep Learning, Representation Learning, Social Network Analysis, Recommender System

## EDUCATION

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**Seoul National University**, Seoul, Korea Aug. 2017  
B.S. in Industrial Engineering and Mathematics (double major, *Cum Laude*)  
Minor in Computer Science & Engineering

**Korea Science Academy**, Busan, Korea Feb. 2009  
Major in Mathematics and Physics

## RESEARCH AND WORK EXPERIENCE

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**Data Mining Laboratory** Jan. 2016 - Present  
*Research Intern (Advisor: Prof. U Kang)* *Seoul National University, Seoul, Korea*

- Research area: network representation learning, probabilistic modeling, and deep learning

**WISEfn Corporation** July 2012 - May 2015  
*Software Engineer* *Seoul, Korea*

- Developed investment strategy evaluation software and workflow management system
- Managed database management tools and data integration procedures

**Nonlinear Neurophysics Laboratory** Mar. 2007 - Feb. 2008  
*Research Intern (Advisor: Prof. Soo Yong Kim, Kyungsik Kim)* *KAIST, Daejeon, Korea*

- Research area: random matrix theory, network theory, and game theory

## PUBLICATIONS

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1. [Junghwan Kim](#), Haekyu Park, Ji-eun Lee, and U Kang, “SIDE: Representation Learning in Signed Directed Networks”, ACM International Conference on World Wide Web (WWW) 2018. (To appear)
2. Haekyu Park, Hyunsik Jeon, [Junghwan Kim](#), Beunguk Ahn, and U Kang, “UniWalk: Explainable and Accurate Recommendation for Rating and Network Data”, arXiv preprint (arXiv:1710.07134) 2017.
3. Gyuchang Lim, SooYong Kim, [Junghwan Kim](#), Pyungsoo Kim, Yoonjong Kang, Sanghoon Park, Inho Park, Sang-Bum Park, and Kyungsik Kim, “Structure of a financial cross-correlation matrix under attack”, *Physica A: Statistical Mechanics and its Applications*, 2009, 388.18: 3851-3858.

## PATENTS

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1. U Kang, Junghwan Kim, and Haekyu Park, “Apparatus and Method for Representation Learning in Signed Directed Networks”, Korean Patent 10-2017-0130914, 2017.
2. U Kang, Haekyu Park, 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

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**Bronze Medal**, National Collegiate Mathematics Competition (for math major), *Korea Mathematical Society* 2015

**Silver Medal**, National Collegiate Mathematics Competition (for non-math major), *Korea Mathematical Society* 2011

**National Scholarship for Science and Engineering**, *Korea Student Aid Foundation* 2009-2015

**Silver Medal**, Korea Physics Olympiad, *Korea Physical Society* 2008

**Merit-based Scholarship**, *Kwangshin Petroleum Co., Kyobo Life Insurance Co., Chokwang Paint Ltd.* 2006-2008

## INVITED TALKS

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**Invited talk**, Emoney Inc. 2016  
Title: Machine Learning and Deep Learning with Stock Price Data

## TEACHING EXPERIENCE

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**Teaching Assistant**, Basic Calculus 2 at Seoul National University Fall 2010

**Teaching Assistant**, Basic Physics 1 at Seoul National University Spring 2010

## GRADUATE COURSEWORK

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Probability Theory 1 Spring 2017

Theory of Statistics 1 Spring 2017

Topics in Applied Mathematics (Numerical Linear Algebra for Big Data) Spring 2017

Introduction to Computer Vision Spring 2017

Topics in Big Data Analytics (Advanced Social Network Analysis) Spring 2017

Probabilistic Graphical Model Fall 2016

Industrial Data Analytics Fall 2015

## TECHNICAL STRENGTHS

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**Programming Languages** Python, C++, VBA (Advanced)  
Java, MATLAB, R, C# (Experienced)

**Libraries** NumPy, SciPy, Pandas, TensorFlow (Advanced)  
PyTorch (Experienced)

**Database Frameworks** Microsoft SQL (Advanced)  
MySQL, Oracle (Experienced)

## REFERENCE

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**U Kang, Associate Professor**

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