

Joonho Bae

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Education

Korea Advanced Institute of Science and Technology (KAIST)

M.S. Industrial & Systems Engineering

Korea, Republic of

2017 - Present

Seoul National University (SNU)

B.S. Statistics, Financial Economics

Korea, Republic of

2009 - 2016

Work Experiences

Department of Industrial & Systems Engineering, KAIST

Teaching Assistant

2018

- IE481, Data-driven Decision Making and Control (Fall 2018)
- IE241, Engineering Statistics I (Spring 2018)

LG CNS

Guide: Jinkyoo Park

Jul 2018 - Present

- Predicted State of Health (SOH) of Energy Storage System (ESS) based on Li-ion battery
- Diagnosed ESS system for fault detection using multi-sensor analysis

TNS GLOBAL

Guide: Jinkyoo Park, Jeonghye Choi

Mar 2017 - Present

- Analyzed log level data to define features for modeling user behavior
- Modeled mobile usage patterns using machine learning techniques such as Gaussian Process

SK TELECOM

Marketing Manager

Jul 2015 - Feb 2017

- Managed more than 40 stores in Gangnam district which is the central part of Seoul
- Developed optimizing tools for distribution of the mobile phones to maximize the profits

CHAM SON GIL Cooperative (Homepage)

Team Leader, Founding Member

Aug 2013 - Jul 2015

- Established a healing center for the blind masseurs and developed differentiated B2B service and products targeting 20 30s, who were not main customers of the original market
- Expanded the brand to nation-wide and have 6 stores in Korea, ensuring average salary of \$3,000 per month for the blind masseurs

Time Series Analysis Lab, Department of Statistics, SNU

Research Intern, Guide : Prof Sinsup Cho, Department of Statistics, SNU

Dec 2012 - Feb 2013

- Developed KESS (Korean Educational Statistics Software) enabling convenient statistical analysis using Excel

HHC, 8th U.S. ARMY

Sergeant

May 2010 - Feb 2012

- Operated and managed schedules for the garrison

Publication

[1] Bae, J., Park, J., Choi, J. Nonparametric Bayesian Dynamic Tensor Factorization (Submitted)

[2] Frequency-based Change Detection via Multi-output Log Gaussian Cox Process (Work in Progress)

[3] Dissertation : Modeling Mobile Applications

Supervisor : Prof Jinkyoo Park, ISyE Dept, KAIST

Conference Presentations

- [1] The Recommender System for Mobile Apps, *2018 Global Marketing Conference*, Tokyo, Japan.
- [2] Frequency-based Anomaly Detection via Multi-output Log Gaussian Cox Process, *2018 Stochastic Processes and their Applications*, Gothenburg, Sweden.
- [3] Detecting a Change in Relationship Status using Smartphones: From a Single to a Couple, *INFORMS Annual Meeting 2018*, Phoenix, AZ.
- [4] An application of Doubly Stochastic Poisson Process for Detecting Abnormalities, *INFORMS Annual Meeting 2018*, Phoenix, AZ.

Awards & Honors

- KOSAF FELLOWSHIP (2009-2014) National Scholarship For Science & Engineering, KOSAF
- SOCIAL VENTURE IDEA (2014) Ministry of Employment&Labor, Korea
- ENACTUS NATIONAL COMPETITION (2014) Enactus
- HOPE ADVERTISEMENT (2013) Seoul Metropolitan Government
- SCH SOCIAL VENTURE IDEA (2013) Soonchunhyang University
- SK SOCIAL ENTERPRISE (2013) SK Happiness Foundation
- ARMY COMMENDATION MEDAL (2012) 8th U.S.ARMY

Technical Strengths

- **Programming Languages:** C, Python, MATLAB
- **Statistical Languages:** SAS, R, Excel VBA
- **Machine Learning Modules:** (Python-based) GPy, gpflow, tensorflow, keras, PyMC3, (MATLAB-based) GPML, gpstuff

Additional Courses Undertaken

Stochastic Modeling I, II, Applications of AI/Data Mining Technology, Statistical Learning Theory, Convex Optimization, Bayesian Estimation and its application, Deep Learning for Computer Vision, Game Theory with Engineering Applications, Mathematical Foundation of Reinforcement Learning