Joonho Bae

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Education

Korea Advanced Institute of Science and Technology (KAIST)   Korea, Republic of
    M.S. Industrial & Systems Engineering   *2017 - Present*

Seoul National University (SNU)   Korea, Republic of
    B.S. Statistics, Financial Economics   *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   *Sep 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