

Youngjin Heo

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Education

- Apr.2017 **MS, Biostatistics**, *University of Michigan*, Ann Arbor, MI.
Aug.2014 **MS, Mathematical Science**, *Korea Advanced Institute of Science and Technology*, Daejeon, South Korea.
Jan.2012 **BS, Mathematical Science**, *Korea Advanced Institute of Science and Technology*, Daejeon, South Korea, Minor in Financial Engineering Program.

Work Experiences

- Jun–Aug.2016 **Data Scientist Intern**, *University of Michigan Transportation Research Institute*, Ann Arbor, MI.
○ Extracted hard-braking events in Michigan using a 5.2 TB dataset in Python using pandas, numpy and multiprocessing modules, and identified the duration and frequency of the events in order to avoid potential car damage.
- Jan–Jul.2015 **Data Analyst**, *Clinical Trial Center in Chonbuk National Hospital*, Jeonju, South Korea.
○ Maintained data analysis pipeline for Phase I clinical trial including A/B testing of a new intervention and analyzed the trial datasets for writing 'statistical analysis plan (SAP)' and 'clinical study report (CSR)' using SAS, SQL and R in order to support pharmaceutical companies to make a decision on equivalence of two medicines or treatments.
- Sep.2013 – Feb.2014 **Machine Learning Scientist**, *University of California San Francisco*, San Francisco, CA.
○ Implemented supervised machine learning techniques in correlated structured data in R with glmnet package to recognize informative patterns, select significant variables, and do classification for deriving clinically meaningful information from the data of patients with Alzheimer or Parkinson disease.

Academic Experiences

- Jan–Apr.2017 **Statistical Modeling Projects**, *Statistical Investigation course*, University of Michigan.
○ Modeled and analyzed real world datasets using logistic regression, linear mixed model, survival analysis and/or machine learning algorithms in R in order to figure out risk factors for disease-related outcomes or build predictive models for developing a disease.
- Jan–Apr.2017 **Signal Classification with Machine Learning Projects**, *Signal Processing and Machine Learning course*, University of Michigan.
○ Extracted features from signals and classified signals by using decision tree, Support Vector Machine (SVM), and K-Nearest Neighbor (KNN), which resulted in improving accuracy of classification.
○ Applied Convolutional Neural Network (CNN) for biomedical image segmentation in order to classify cancers using Theano in Python.
- Sep–Dec.2016 **Block-wise Gibbs Sampling Project**, *Statistical Computing course*, University of Michigan.
○ Implemented the block-wise Gibbs Sampling in C++ for generating samples from a large dataset and increased the sampling speed by 60 percent through modifying covariance computation algorithm so as to identify risk factors of the dataset.
- Sep.2016 – Apr.2017 **Teaching Assistant**, *Statistical Inference & Probability and Distribution Theory*, University of Michigan.
○ Assisted 80 graduate students by holding office hours to guide students to complete their assignments and understand materials in-depth, and graded their homeworks and exams.

Technical Skills & Language

- Programming** Python, SQL, R, SAS, C++, Matlab, Linux, Hadoop, GitHub, Tableau.
Language English (Fluent in written and oral), Korean (Native).

Honor & Awards

Korean Government Fellowship
Outstanding Teaching Assistant Award

Sep. 2015 – Apr.2017

May. 2013, 2014