

# YJ Choe

Yo Joong Choe, 최요중

Research Scientist at Kakao  
PhD Student (on leave) at Carnegie Mellon University  
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## CURRENT POSITION

### **KAKAO | RESEARCH SCIENTIST**

Since July 2017 | Pangyo, South Korea

Research Areas: Machine Learning, Deep Learning, Natural Language Processing

## EDUCATION

### **CARNEGIE MELLON UNIVERSITY | PHD STUDENT IN STATISTICS AND MACHINE LEARNING**

Since August 2015 (on leave since May 2017) | Pittsburgh, PA, USA

### **CARNEGIE MELLON UNIVERSITY | MS IN MACHINE LEARNING**

August 2015 – May 2017 | Pittsburgh, PA, USA

Data Analysis Project: Finding Relationships Between Structural and Functional Brain Networks via Connectome Fingerprinting

Advisors: Aarti Singh, Timothy Verstynen, and Sivaraman Balakrishnan

### **UNIVERSITY OF CHICAGO | BS WITH HONORS IN MATHEMATICS AND COMPUTER SCIENCE**

September 2011 – June 2015 | Chicago, IL, USA

Honors: Phi Beta Kappa (Top 5% of Class), Dean's List

## RESEARCH

### **DISCOVERY OF NATURAL LANGUAGE CONCEPTS IN INDIVIDUAL UNITS**

Seil Na, Yo Joong Choe, Dong-Hyun Lee, Gunhee Kim

Accepted to the International Conference on Learning Representations (ICLR) 2019

[OpenReview]

Deep Learning • Interpretability • Natural Language Processing

### **LOCAL WHITE MATTER ARCHITECTURE DEFINES FUNCTIONAL BRAIN DYNAMICS**

Yo Joong Choe, Sivaraman Balakrishnan, Aarti Singh, Jean M. Vettel, and Timothy Verstynen

In Proceedings of the IEEE Conference on Systems, Man, and Cybernetics (SMC) 2018

Franklin V. Taylor Memorial (Best Paper) Award

[arXiv] [slides]

High-Dimensional Statistics • Statistical Inference • Multimodal Learning • Neuroscience

### **LEARNING DIVERSE OVERCOMPLETE DICTIONARIES VIA DETERMINANTAL PRIORS**

Maruan Al-Shedivat, Yo Joong Choe, Neil Spencer, and Eric P. Xing

Poster Presentation at ICML 2016 Workshop on Geometry in Machine Learning

[abstract]

Generative Modeling • Unsupervised Learning • Approximate Inference

### **A STATISTICAL ANALYSIS OF NEURAL NETWORKS**

Yo Joong Choe

Technical Report (2016)

[pdf]

Statistical Theory • Deep Learning

## PROJECTS

### **DEEP LEARNING AND SOCIOECONOMIC INFERENCE USING GOOGLE STREETVIEW IMAGES | 2015**

Advised by James Evans | Joint work with Nathaniel Sauder, Zhongtian Dai, Rafael Turner, and Vrushank Vora

[blog]

Deep Learning • Image Processing • Computational Social Science

### **SPARSE ADDITIVE MODELS WITH SHAPE CONSTRAINTS | 2014**

Advised by John Lafferty | Joint work with Sabyasachi Chatterjee and Min Xu

[pdf] [slides] [code]

High-Dimensional Statistics • Nonparametric Statistics • Convex Optimization

## LANGUAGES

### **PROGRAMMING & COMPUTING**

Proficient:

Python • R • Matlab

Familiar:

SQL • Apache Spark • C • Racket ( $\lambda$ )

## SELECTED COURSEWORK

### **CARNEGIE MELLON UNIVERSITY**

Topics in Deep Learning

Probabilistic Graphical Models

Statistical Machine Learning

Advanced Intro to Machine Learning

Advanced Data Analysis I-II

Advanced Statistical Theory

Regression Analysis

## TEACHING ASSISTANTSHIPS

### **CARNEGIE MELLON UNIVERSITY**

Statistics and Machine Learning II

Intro to Probability Modeling

Statistical Computing

### **SPOKEN & WRITTEN**

Native Fluency:

English, Korean

### **UNIVERSITY OF CHICAGO**

Machine Learning and Large-Scale Data Analysis

Nonparametric Inference

High-Dimensional Statistics

Intro to Artificial Intelligence

Computational Linguistics

Matrix Computation I-II

Honors Real Analysis I-II-III

### **UNIVERSITY OF CHICAGO**

Machine Learning and Large-Scale Data Analysis

Foundations of Computational Data Analysis

Calculus I-II-III