Yookoon Park

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Education

Ph.D. Computer Science, Columbia University 2019 – present
Advisor: David M. Blei

M. S. Computer Science and Engineering, Seoul National University 2019
Advisor: Gunhee Kim

B. S. Computer Science and Engineering, Statistics, Seoul National University 2017

Work Experience

Research Intern. Facebook Assistant Multimodal Relevance team. 2021 Summer

Publications

Yookoon Park, Sangho Lee, Gunhee Kim, David M. Blei. Unsupervised representation learning via neural activation coding. In *ICML*, 2021.

Yookoon Park, Chris Dongjoo Kim, Gunhee Kim. Variational Laplace autoencoders. In *ICML*, 2019.
Paper: http://proceedings.mlr.press/v97/park19a/park19a.pdf
Code: https://github.com/yookoon/VLAE

Yookoon Park, Jaemin Cho, Gunhee Kim. A hierarchical latent structure for variational conversation modeling. In *NAACL*, 2018.
Paper: http://aclweb.org/anthology/N18-1162
Code: http://vision.snu.ac.kr/projects/vhcr

Yookoon Park*, Juyong Kim*, Gunhee Kim, Sung Ju Hwang. SplitNet: Learning to semantically split deep networks for parameter reduction and model parallelization. In *ICML*, 2017. (* equal contribution)
Paper: http://proceedings.mlr.press/v70/kim17b/kim17b.pdf
Code: http://vision.snu.ac.kr/projects/splitnet

Research

Unsupervised Representation Learning via Neural Activation Coding
Propose to maximize the nonlinear expressivity of deep encoders by maximizing mutual information between activation patterns and data over a noisy communication channel. Published in *ICML*, 2021 (lead author).

Improved Posterior Inference for Deep Generative Models
Incorporated Laplace posterior approximation for deep generative models to tackle the challenges of amortized variational inference. Published in *ICML*, 2019 (lead author).

Conversation Modeling using Variational Autoencoders
Proposed a hierarchical latent variable model and a novel regularization technique to overcome the *latent variable collapse* problem in RNN-VAE models for conversation modeling. Published in *NAACL*, 2018 (lead author).

Learning Embarrassingly Parallel Network Structures
Presented a novel group sparse weight regularization to split deep neural networks into tree-like layer structure for model parallelization and parameter reduction. Published in *ICML*, 2017 (co-author).

Awards

Kwanjeong Educational Foundation 2019 – present
Abroad Graduate Student Scholarship.

	Korea Foundation for Advanced Studies (KFAS) Graduate Student Scholarship.	2017 – 2019
	National Science and Engineering Scholarship of Korea. Undergraduate Student Scholarship.	2010 – 2016

Teaching

CU COMS 4774 Unsupervised Learning	Spring 2021
CU COMSW 4762 Machine Learning for Functional Genomics	Spring 2021
SNU M1522.001000 Computer Vision	Spring 2018
SNU 4190.678 Natural Language Processing	Fall 2017
SNU 4190.101 Discrete Mathematics	Spring 2017