

Kisung You

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EDUCATION	<p><i>Ph.D.</i>, Statistics August 2016 - August 2021 Department of Applied and Computational Mathematics and Statistics University of Notre Dame, USA</p> <ul style="list-style-type: none">• Advisor: Prof. Lizhen Lin, Prof. Ick Hoon Jin• Thesis: <i>Topics in Geometric and Topological Data Analysis</i> <p><i>M.S.</i>, Mathematics August 2015 Department of Computational Science and Engineering Yonsei University, Seoul, South Korea</p> <p><i>B.A.</i>, Business Administration August 2013 <i>B.S.</i>, Mathematics Yonsei University, Seoul, South Korea</p>
FELLOWSHIPS & AWARDS	<ul style="list-style-type: none">• Outstanding Graduate Student Teaching Award April 2019 University of Notre Dame• Marilyn Jane Navari Fellowship 2017 - 2021 University of Notre Dame• Navari Fellowship 2016 - 2017 University of Notre Dame• Brain Korea 21 Scholarship 2013 - 2015 National Research Foundation of Korea
PUBLICATIONS	<p>(* for equal contributions; [†] for corresponding author)</p> <p>[1] K. You[*] and H-J. Park[*]. (2021). Re-visiting Riemannian geometry of symmetric positive definite matrices for the analysis of functional connectivity. <i>NeuroImage</i>. 225:117464.</p> <p>[2] H. Tak, K. You, S. K. Ghosh, B. Su, and J. Kelly. (2020). Data transforming augmentation for heteroscedastic models. <i>Journal of Computational and Graphical Statistics</i>. 29(3): 659-667.</p> <p>[3] J. H. Park, E-J. Kwak, K. You, Y-S. Jung, and H-D. Jung. (2019). Volume change pattern of decompression of mandibular odontogenic keratocyst. <i>Maxillofacial Plastic and Reconstructive Surgery</i>. 41:2.</p> <p>[4] Y.J. Cha, K. You, and W. Choi. (2016). Vision-based detection of loosened bolts using the Hough transforms and support vector machines. <i>Automation in Construction</i>. 71(2): 181-188.</p>
WORK IN PROGRESS	<p>(* for equal contributions; [†] for corresponding author)</p> <p>[i] K. You. Parameter Estimation and Model-Based Clustering with Spherical Normal Distribution on the Unit Hypersphere. <i>arXiv:2106.06375</i>.</p>

- [ii] B. Yu and **K. You**[†]. Shape-Preserving Dimensionality Reduction : An Algorithm and Measures of Topological Equivalence. Submitted to *Journal of Applied and Computational Topology*.
- [iii] BS. Thomas, L. Lin, **K. You**, L-H. Lim, and S. Mukherjee. Learning Subspaces of Different Dimensions. Submitted to *Journal of Computational and Graphical Statistics*.
- [iv] **K. You**. Rdimtools: An R package for Dimension Reduction and Intrinsic Dimension Estimation. Submitted to *Journal of Machine Learning Research*.
- [v] D. Bao, **K. You**, and L. Lin. Network Distance Based on Laplacian Flows on Graphs. *arXiv:1810.02906*.

PRESENTATIONS

(► Poster presentation; ▷ Contributed talk.)

- MNET 2.0: Big Graphical Mining of Multimodal Brain Networks. NetSci 2016. *Seoul, South Korea*, June 2016.
- Reusability of deep neural network for human functional networks. NetSci 2016. *Seoul, South Korea*, June 2016.
- Low-dimensional representation of human brain networks with modularity-based proximity of large-scale functional graphs. NetSci 2016. *Seoul, South Korea*, June 2016.
- ▷ Convergence of Empirical Intensity CDF and Texture Classification. KSIAM 2015 Spring Conference. *Suwon, South Korea*, May 2015

PROFESSIONAL EXPERIENCE

<p><i>Researcher</i></p> <p>Yonsei Epilepsy Research Center, Seoul, South Korea</p> <p><i>Research Associate</i></p> <p>LG Electronics Advanced Research Institute, Seoul, South Korea</p> <p><i>Assistant Project Manager</i></p> <p>Korea International Cooperation Agency, Seoul, South Korea</p>	<p>October 2015 – July 2016</p> <p>August 2015 – September 2015</p> <p>July 2012 – June 2013</p>
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SOFTWARE

(• in R on CRAN; more available on GitHub)

- ADMM Algorithms using Alternating Direction Method of Multipliers.
- CovTools Geometrical and Statistical Tools for Covariance Analysis.
- filling Matrix Completion, Imputation, and Inpainting Methods.
- graphon A collection of graphon estimation methods.
- maotai Tools for Matrix Algebra, Optimization and Inference.
- mclustcomp Measures for comparing partitions of sets.
- NetworkDistance Distance Measures for Networks.
- Rdimtools Dimension reduction and estimation methods.
- RiemBase Functions and C++ Header Files for Computation on Manifolds.
- Riemann Learning with Data on Riemannian Manifolds.
- Rlinsolve Fast Iterative solvers for (sparse) linear system of equations.
- ROptSpace Matrix Completion from a partially observed matrix.
- SBmedian Scalable Bayes with Median of Subset Posteriors.
- SHT Statistical Hypothesis Testing Toolbox.
- T4cluster Tools for Cluster Analysis.
- T4transport Tools for Computational Optimal Transport.

- tvR Total Variation Regularization for Signals and Images.
- Zseq Integer Sequence Generator.

TEACHING EXPERIENCE

Instructor Fall 2017 – Spring 2020

University of Notre Dame, USA

- Statistical Methods and Data Analysis Lab (Accumulative : $4.78 \pm 0.31/5$)

Teaching Assistant

Fall 2016 – Fall 2020

University of Notre Dame, USA

- Mathematical Statistics (Fall 2020)
- Systems and Technology: R (Summer 2017)
- Probability and Statistics for Data Science (Summer 2017)
- Statistics for the Life Sciences (Spring 2017)
- Statistics for Business and Economics I (Fall 2016)

SKILLS

- *Language* Korean, English.
- *Software* R, MATLAB, C/C++, Python.

REFERENCES

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