

Kisung You

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EDUCATION

Ph.D., Statistics August 2016 - expected July 2021
Department of Applied and Computational Mathematics and Statistics
University of Notre Dame, USA

- **Advisor:** Prof. Lizhen Lin, Prof. Ick Hoon Jin
- **Thesis:** *Topics in Geometric and Topological Data Analysis*

M.S., Mathematics August 2015
Department of Computational Science and Engineering
Yonsei University, Seoul, South Korea

- **Advisor:** Prof. Yoon Mo Jung
- **Thesis:** *Convergence of Empirical Intensity CDF and Texture Classification*

B.S., Mathematics August 2013
B.A., Business Administration
Yonsei University, Seoul, South Korea

FELLOWSHIPS & AWARDS

- Outstanding Graduate Student Teaching Award April 2019
University of Notre Dame
- Marilyn Jane Navari Fellowship 2017 - Current
University of Notre Dame
- Navari Fellowship 2016 - 2017
University of Notre Dame
- Brain Korea 21 Scholarship 2013 - 2015
National Research Foundation of Korea

PUBLICATIONS

- [1] **K. You** and H-J. Park. (2020+) Re-visiting Riemannian geometry of symmetric positive definite matrices for the analysis of functional connectivity. *NeuroImage*. **225**:117464.
- [2] H. Tak, **K. You**, S. K. Ghosh, B. Su, and J. Kelly. (2020). Data transforming augmentation for heteroscedastic models. *Journal of Computational and Graphical Statistics*. **29**(3): 659-667.
- [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. *Maxillofacial Plastic and Reconstructive Surgery*. **41**:2.
- [4] Y.J. Cha, **K. You**, and W. Choi. (2016). Vision-based detection of loosened bolts using the Hough transforms and support vector machines. *Automation in Construction*. **71**(2): 181-188.

PAPERS
UNDER REVIEW

- [i] 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*.
- [ii] **K. You**. Rdimtools: An R package for Dimension Reduction and Intrinsic Dimension Estimation. Submitted to *Journal of Machine Learning Research*.

PREPRINTS
& IN PROGRESS

- [i] 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> Yonsei Epilepsy Research Center, Seoul, South Korea</p> <p><i>Research Associate</i> LG Electronics Advanced Research Institute, Seoul, South Korea</p> <p><i>Assistant Project Manager</i> 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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