

HYUNG GYU MIN

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Fields of Interest

- Dimension Reduction
- Quantum Data Science
- Nonparametric Modeling
- Optimization

Education

Sep 2020 - Present	Yonsei University , Seoul, Republic of Korea Master of Arts, Statistics GPA: 4.26/4.30 (4.00/4.00)
Mar 2014 - Aug 2020	Yonsei University , Seoul, Republic of Korea Bachelor of Arts, Applied Statistics Stat & Math GPA: 4.11/4.30 (3.91/4.00) Overall GPA: 3.70/4.30 (3.56/4.00)

English Proficiency

TOEFL iBT	101/120 : 30/28/23/20 (R/L/S/W) October 13, 2021
GRE General Test	V 161 (88%)/ Q 169 (94%)/ W 3.5 (37%) February 26, 2021

Relevant Coursework

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|----------------------------------|----------------------------|---------------------------|
| • Dimension Reduction Theory | • Bayesian Statistics | • Big Data Case Studies |
| • Big Data and Quantum computing | • Statistical Computing | • Mathematical Statistics |
| • Theory Of Deep Learning | • Generalized Mixed Models | • Analysis 1 |

Working Papers

Microbiome Analysis Submitted	Altered gut microbiota in individuals with episodic and chronic migraine - Made poisson regression models and analyzed the relation between frequency of migraine and microbiota
Quantum Data Science In preparation	A Study on Characteristics and Performances of Quantum Kernels for Dimension Reduction - A research for exploring the feature of quantum kernel
Quantum Data Science In preparation	Handling multi-collinearity using Variable Selection with Quantum Algorithm - A research for solving multi-collinearity problems using the Quantum Computer
Quantum Finance In preparation	Real Estate Portfolio Optimization using Quantum Approximated Optimization Algorithm - A research for applying the quantum algorithm into real financial problems
Quantum Biology In preparation	Sparse Variable Bagging using Quantum Annealing - A research for applying the quantum algorithm into specific biological problems
Dimension Reduction In preparation	Binary Dimension Reduction with Combinatorial Problem - A research for constructing test for evaluating feature importance

Teaching Experiences

Yonsei University Mar 2022 - June 2022	Teaching Assistant for Theory of Dimension Reduction (Spring 2022) - Prof. <i>Hakbae Lee</i>
Yonsei University Mar 2022 - June 2022	Teaching Assistant for Qiskit for Data Science (Spring 2022) - Prof. <i>Hakbae Lee</i>
Yonsei University Mar 2022 - June 2022	Teaching Assistant for Big Data and Quantum Computing (Fall 2021) - Prof. <i>Hakbae Lee</i>
Yonsei University Sep 2021 - Dec 2021	Teaching Assistant for Multivariate Analysis (Fall 2021) - Prof. <i>Hakbae Lee</i>
Yonsei University Mar 2021 - June 2021	Teaching Assistant for Statistical Data Analysis (Spring 2021) - Prof. <i>Hakbae Lee</i>
Yonsei University Sep 2020 - Dec 2020	Teaching Assistant for Introduction to Statistics (Fall 2020) - <i>Instructor Ho Gyu Lee</i>

Relevant Study

Quantum Machine Learning	Schuld, M. & Petruccione, F. (2019). Supervised Learning with Quantum Computers, Cham, Switzerland:Springer
Theory of Hilbert Space	Debnath, L.& Mikusinski, P. (2005). Introduction to Hilbert Space.London,UK.:Elsevire Academic Press
Abstract Integration	Rudin, Walter.(1987).Real and Complex Analysis.Singapore:McGraw-Hill.
Convex Optimization	Boyd,S. & Vandenberghe, L. (2004) Convex Optimization.Cambridge, UK:Cambridge University Press.
Bayesian Statistics	Gelman, A.,Carlin, B.J.,...,& Rubin,D.B. (2021). Bayesian Data Analysis.Boca Raton,FL:CRC Press.

Programming Skills

Python(Qiskit, Scikit-Learn, Tensor Flow), R(RCPP, Shiny, Tidyverse)

Awards And Honors

May 2019	Excellence Prize for 2019 Embrain Panel Big Data Analysis Competition
Fall 2019	High Honors (Yonsei University)

Extracurricular Activities

Korea Quantum Computing June 2022 - Present	Department of Research and Development Senior Researcher Director : Dr. Kion Kim - Led a research team for the research projects - Made several lectures for the beginner of the Quantum Data Science
Yonsei University Mar 2022 - Present	Quantum DnA Raboratory Researcher Director: Prof.Daniel Kyungdeock Park - Participated in laboratory of Prof.Daniel Kyungdeock Park - Researched about Quantum Convolutional Neural Network and Quantum Error Mitigation
Yonsei University Mar 2021 - Present	Institute of Data Science Chief Consulting Researcher Director: Prof. Seung Ho Kang - Assisted constructing consulting program as a founding member of renewed institute - Consulted graduate students about Academic statistical method for their paper e.g. Study for comparing efficiency of micro-needle or Study for correlation between acceptance rate of bill and governments - Worked as chief consulting researcher and lead junior researchers.
Yonsei University Jan 2019 - Dec 2020	Data Science Lab(DSL) Director of Academic Affairs Advisor: Prof. Tae Young Park - Undergraduate academic society to study data science and statistical theories - Acted as a founding member and constructed several programs for study and experience - Opened class for undergraduate students e.g. Bayesian Statistics, Convex Optimization

REFERENCES

Prof. Hakbae Lee Department of Applied Statistics/Data Science Yonsei University	hblee@yonsei.ac.kr Professor
Prof. Daniel Kyungdeock Park Department of Applied Statistics/Data Science Yonsei University	dkd.park@yonsei.ac.kr Professor