

MIN HYUNG GYU

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FIELDS OF INTEREST

Dimension Reduction, Quantum Machine Learning, Nonparametric Model, Deep Learning Theory, 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**)

STANDARDIZED TESTS

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

- 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

Relevant Study Experience

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|--------------------------|---|
| Quantum Computing | - Sutor, R. (2019). Dancing With Qubits. Birmingham,UK:Packt. |
| 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.:Elsevier Academic Press |
| Abstract Integration | - Rudin, W. (1987). Real and Complex Analysis. Singapore:McGraw-Hill. |
| Convex Optimization | - Boyd, S. & Vandenberghe, L. (2004) Convex Optimization. Cambridge, UK:Cambridge University Press. |
| RKHS | - Li, B. (2018). Sufficient Dimension Reduction. Boca Raton, FL: CRC 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)

WORKING PAPERS

Relation Analysis in Microbiota Submitted	Altered gut microbiota in individuals with episodic and chronic migraine <ul style="list-style-type: none">- Cooperated with Department of Diagnostic Laboratory Medicine- Made poisson regression models and analyzed the relation between frequency of migraine and microbiota- Supervised a statistical test procedure of the paper such as ANOVA or t-test
Quantum Machine Learning In preparation	Sufficient Dimension Reduction preprocessing for NISQ computing <ul style="list-style-type: none">- A research for developing quantum convolutional neural network with statistical techniques- Built QCNN model and applied to actual data such as MNIST or fashion MNIST- Applied SDR method to reduce the number of depth and width of circuit and the number of operations

TEACHING EXPERIENCES

Yonsei University Sep 2021 - present	Teaching Assistant for Big Data and Quantum computing (graduate, Fall 2021) - Dr. <i>Hakbea Lee</i>
Yonsei University Sep 2021 - present	Teaching Assistant for Multivariate Analysis (Undergraduate, Fall 2021) - Dr. <i>Hakbea Lee</i>
Yonsei University Mar 2021 - June 2021	Teaching Assistant for Statistical Data Analysis (Undergraduate, Spring 2021) - Dr. <i>Hakbea Lee</i>
Yonsei University Sep 2020 - Dec 2020	Teaching Assistant for Introduction to Statistics (Undergraduate, Fall 2020) - <i>Instructor Ho Gyu Lee</i>

EXTRACURRICULAR ACTIVITIES

Yonsei University Mar 2021 - Present	Institute of Data Science Consulting Assistant Director: Dr. Hyun Tae Kim <ul style="list-style-type: none">- 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
Yonsei University Jan 2019 - Dec 2020	Data Science Lab(DSL) Director of Academic Affairs Advisor: Dr. Tae Young Park (Yonsei University) <ul style="list-style-type: none">- Undergraduate academic club for studying data science and statistical theories- Act as a founding member and constructed several programs for study and experience- Opened class for undergraduate students e.g. Bayesian Statistics, Convex Optimization

REFERENCES

Dr. Hakbea Lee Department of Statistics Yonsei University	hblee@yonsei.ac.kr Professor
Dr. Ick Hoon Jin Department of Statistics Yonsei University	ijin@yonsei.ac.kr Professor
Dr. Jaewoo Park Department of Statistics Yonsei University	jwpark88@yonsei.ac.kr Professor