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: 3.66/4.30 **(3.54/4.00)**

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 - Quantum computing
- Statistical Computing
- Mathematical Statistics
- Theory Of Deep Learning
- Generalized Mixed Models
- Analysis 1

Relevant Study Experience

Quantum Computing	- Sutor, R. (2019). Dancing With Qubits. Birmingham,UK:Packt.
Quantum Machine Learning	- Schuld, M. & Petrucionne, 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, 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, Keras), R(;RCPP, Shiny)

AWARDS AND HONORS

Aug 2021	Certificate of Quantum Excellence for 2021 Qiskit Global Summer School on Quantum Machine Learning
May 2019	Excellence Prize for 2019 Embrain Panel Big Data Analysis Competition
Fall 2019	Honors (Yonsei University)

WORKING PAPERS

Interpretable Deep Learning In preparation	**Estimating Predictive Distribution using Hybrid Deep-SDR** - A research for interpreting deep learning using sufficient dimension reduction method - Applied sufficient dimension reduction techniques to last layer of neural network - Used for estimation of predictive distribution, visualization of results, analysis for cluster of data points, detection of outlier
Quantum machine learning In preparation	**Kernel PCA with Quantum Kernel Estimator** - A research for kernel principal component with quantum kernel - Applied quantum kernel estimator to investigate quantum feature space - Used for exploit nonlinear information of the data matrix
Relation Analysis in Microbiota In preparation	**Altered gut microbiota in individuals with episodic and chronic migraine** - Cooperated with Department of Diagnostic Laboratory Medicine - Made poisson regression model and analyze the relation between frequency of migarine and microbiota - Supervised a statistical procedure of the experiment

TEACHING EXPERIENCES

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

EXTRACURRICULAR ACTIVITIES

Yonsei University Mar 2021 - Present	**Institute of Data Science** Consulting Assistant Director: Dr. Hyun Tae Kim - 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) - 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