

BONGSOO YI

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RESEARCH INTEREST

Statistical Machine Learning, Nonparametric Statistics, High-dimensional Statistics, Bayesian Statistics

EDUCATION

University of North Carolina at Chapel Hill *Aug. 2020 - Present*
Ph.D. in Statistics *Chapel Hill, NC*

Seoul National University (SNU) *Mar. 2018 - Jun. 2018*
The integrated MS/Ph.D. Course of Science in Statistics *Seoul, Korea*
Passed the Ph.D. qualifying exams (Theory of Statistics, Applied Statistics, Probability Theory)
Completed first semester and left for 2 years due to mandatory military service (Jul. 2018 - Jun. 2020)

Seoul National University (SNU) *Mar. 2014 - Feb. 2018*
B.S. in Statistics; Class Rank: 3/31 (GPA: 3.86/4.30, Major GPA: 3.88/4.30) *Seoul, Korea*

Sejong Science High School (SSHS) *Mar. 2012 - Feb. 2014*
1 year early graduation; Specialized high school for gifted students in mathematics and science *Seoul, Korea*

RESEARCH EXPERIENCE

KC Machine Learning Lab (KC-ML2), KC *Jun. 2020 - Aug. 2020*
Research Intern (Advisor: Dr. Chan Y. Park)

- Conducted research on geometric properties of value functions in Reinforcement Learning and connection between representation learning and the polytopal structure of value functions
- <https://blog.kc-ml2.com/value-function-geometry/>

Nonparametric Function Estimation Laboratory, SNU *Dec. 2017 - Jun. 2018*
Research Intern (Advisor: Prof. Byeong U. Park)

- Studied nonparametric regression (local polynomial regression, kernel and spline smoothing) and wavelet
- Studied Nadaraya-Watson smooth backfitting method and proved the convergence of the algorithm
- Participated in 2018 SNU International Statistics Workshop

Bayesian Statistics Laboratory, SNU *Jun. 2017 - Aug. 2017, Jun. 2019 - Jul. 2019*
Research Intern (Advisor: Prof. Jaeyong Lee)

- Forecast the fine dust concentration in Seoul using dynamic linear models and state space models
- Analyzed the causal relationship between mental illness and crime using Markov equivalence class of DAGs
- Participated in a 2 month lab seminar on “Bayesian Deep Learning with R”

IDEA Laboratory, SNU *Jun. 2017 - Dec. 2017*
Research Intern (Advisor: Prof. Yongdai Kim)

- Participated in a 5 month lab seminar on “Deep Learning Architectures”
- Studied Natural Language Processing (NLP) with Deep Learning and life-long one-shot learning in recurrent neural networks on a large-scale machine translation task

AWARDS & HONORS

- Korean Government Scholarship for Overseas Study**, *Korean Government* 2020 - 2022
• USD 40,000 for 2 years (4 students selected in the field of natural science nationwide)
- Dean's List**, *College of Natural Sciences, SNU* 2017
• An honor for students who showed top academic performance
- National Scholarship for Science and Engineering**, *Korea Student Aid Foundation* 2016 - 2017
• Full tuition for 2 years who showed top academic performance in the first and second years of university
- Full Merit Scholarship**, *SNU* 2014 - 2015
• Full tuition for students with top academic scores in the semester
- 36th National Undergraduate Mathematics Competition**, *Korean Mathematical Society* Nov. 2017
• Bronze Medal (Field 1: For mathematical majors)
- 2019 International Quant Championship**, *WorldQuant* Mar. 2019 - Jul. 2019
• Reached Stage 2 National Finals with excellent performances
• Received an offer from the WorldQuant Virtual Research Center for the Research Consultant Position
- 15th SAS Analysis Championship**, *SAS Korea* Jun. 2017 - Aug. 2017
• Top 13 finalist among over 300 teams
• Topic: Personalized Video Content Recommendation Analysis based on Mobile Behavior
- SCSC Academic Scholarship**, *Samsung Convergence Software Course* Aug. 2017
- 23rd Seoul Mathematical Olympiad**, *Seoul Metropolitan Office of Education* Jun. 2011
• Grand prize (1st place)

TEACHING EXPERIENCE

- 033.019: Statistics, Teaching Assistant**, *Department of Statistics, SNU* Spring 2018
• Ran office hours for over 80 students every week, and graded all assignments and exams
- 033.016: Basic Calculus 1, Instructor**, *Department of Mathematical Science, SNU* Spring 2017
• Instructed and supervised students in the fundamental concepts of calculus
- Personal Tutor** for middle school, high school and university students Dec 2013 - Aug 2020
• Mathematics (Calculus; Linear Algebra; Differential Equations; Number Theory)
• Statistics (Mathematical Statistics; Regression Analysis)
• Programming (Python; Java) and Computer Science (Algorithm; Data Structure)

EXTRACURRICULAR ACTIVITIES

- Social Service Agent**, *Songpa District Office* Jul. 2018 - Jun. 2020
• Working in public service as an alternative to mandatory military service
• Received a citation from the Chief of Songpa-gu as a model social service agent (Dec. 2019)
- Class President**, *SNU* 2014
• Represented the class of 14

SKILLS & ADDITIONAL INFORMATION

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|------------------------------|---|
| Programming Languages | R, Python, Java, SAS, C, \LaTeX |
| Languages | Korean (native), English (fluent, TOEFL MyBest Scores: 110/120) |
| GRE Subject Test | Mathematics (Scaled Score: 970, Percentile: 99%) |