

# JAEHOAN KIM

Department of Statistics & Department of Mechanical Engineering  
Seoul National University  
Nationality: Republic of Korea  
Email: k1mjh6561@snu.ac.kr  
Last updated: Jan. 05, 2022

## EDUCATION

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<b>Seoul National University (SNU)</b> Double Major in Statistics and Mechanical Engineering Overall GPA 4.02/4.3, Statistics GPA 4.17/4.3, <i>Summa Cum Laude</i> expected Leave of absence for National Military service (Feb. 2018 - Jan. 2020)	Mar. 2016 – Present
<b>Gyeonggi Science High School</b> Specialized high school for gifted students in math and science (1 year early entrance)	Mar. 2013 – Feb. 2016

## PUBLICATIONS

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1. **Kim, J. H., & Lee, J.** (2021). Identifiability of covariance kernels in the Gaussian process regression model. *The Korean Data & Information Science Society*, 32(6), 1373-1392. <https://arxiv.org/abs/2108.04715>

## RESEARCH INTEREST

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**Mathematical Statistics**  
**Machine Learning**  
**Interdisciplinary Studies**  
**High-dimensional Data Analysis**

## RESEARCH EXPERIENCE

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<b>High dimensional multiple testing Laboratory, Seoul National University</b> <i>Research Internship (Advisor: Prof. JunYong Park)</i> <ul style="list-style-type: none"><li>Currently writing thesis paper comparing performances of linear classifiers in high-dimensional situation</li><li>Studied various estimation methods of precision matrix in high dimensional classification</li><li>Studied non-parametric mean estimation strategies using empirical Bayes methods</li></ul>	Jun. 2021 – Present
<b>Bayesian Statistics Research Laboratory, Seoul National University</b> <i>Research Assistant (Advisor: Prof. Jaeyong Lee)</i> <ul style="list-style-type: none"><li>Revealed and proved about identifiability problem in Mixed Gaussian Process Regression Model</li><li>Experimented and analyzed about thermal conductivity of metals in Bayesian aspect</li></ul>	Aug. 2020 – Jun. 2021

## WORK EXPERIENCE

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<b>KBrainLab LLC.</b> <i>Startup which provides Korean lottery number recommendation service</i> <ul style="list-style-type: none"><li>Developed and implemented an algorithm that improved the expected value of lottery customers by 9%</li><li>Formulated an algorithm that ensures 100% of winning high-rank lottery in a group aspect</li><li>Took an initiative of founding as a Chief Technical Officer / Co-founder</li></ul>	Jun. 2021 – Present
<b>20<sup>th</sup> Fighter Wing, Republic of Korea Air Force</b> <ul style="list-style-type: none"><li>Served and honorably discharged from Republic of Korea Air Force, Staff Sergeant</li></ul>	Feb. 2018 – Jan. 2020

## AWARDS

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<b>39<sup>th</sup> University Students Contest of Mathematics, Korean Mathematical Society</b> Grand Prize (1 <sup>st</sup> place)	Dec. 2020
<b>38<sup>th</sup> University Students Contest of Mathematics, Korean Mathematical Society</b> Gold Prize (2 <sup>nd</sup> place)	Dec. 2019
<b>31<sup>st</sup> Korean Mathematics Competition, Korean Society of Mathematical Education</b> Grand Prize (1 <sup>st</sup> place)	Aug. 2015

## HONORS

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- Young Engineer's Honor Society**, *The National Academy of Engineering of Korea* Sep. 2020 - Present
- Used to be a Deputy head in Strategy & Planning 1 Dept.
- SNU Engineering Honor Society (STEM)**, *Seoul National University* Sep. 2020 - Present
- Used to be Recruiting chief, currently a member of STEM
- Hyunsong Scholarship**, *Hyunsong Education & Culture Foundation* Feb. 2017 - Present
- Merit-based scholarship (USD 6K per year)
  - Nominated as the representative of the Department of Engineering

## TEACHING EXPERIENCES

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- Mathematical Statistics 2**, *Seoul National University* Sep. 2021 - Dec. 2021
- Hosted 10+ tutoring sessions in Mathematical Statistics 2, a requisite course for juniors in Dept. of Statistics
- Dynamics and Fluid Mechanics**, *Seoul National University* Sep. 2020 - Feb. 2021
- Hosted 10+ tutoring sessions in Dynamics and Fluid Mechanics, a requisite course for juniors in Dept. of Mechanical Engineering
- Calculus 1**, *Seoul National University* Jan. 2020 - Feb. 2020
- Assisted 10 freshmen with 5+ assignments and feedback about calculus 1 course

## EXTRACURRICULAR ACTIVITIES

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- AI Tech Play** Jan. 2021 - Aug. 2021
- Led the Technology Team to deliver free AI education to 200+ middle school students struck by COVID-19
  - Created a coding education booklet based on the autonomous RACECAR code materials from MIT Lincoln Lab.
- Campus Mentoring Program**, *Seoul National University* Aug. 2020 - Dec. 2020
- Assisted the adaptation of 15 freshmen to university life as a mentor group leader
- SNU Buddy**, *Seoul National University* Spring 2020, Spring 2021, Fall 2021
- Assisted exchange students to acclimate to Korean life through buddy program
- Vice President**, *Global Inter-culturing and Volunteering* Aug. 2017 - Dec. 2017
- Organized camps and activities for the equal opportunity of education for students in underprivileged areas
- X-corps (Practical Issue Research Contest)**, *Seoul National University* Jul. 2017 - Jan. 2018
- Established a drone-based automated survivor detection system in a fire scene using a path-planning algorithm and a signal detection algorithm
- Dream Camp Mentoring**, *Seoul National University* Jul. 2017
- Conducted mentoring program about "how to materialize one's dream" for high school students in countryside
- Volunteer Camp**, *Global Inter-culturing and Volunteering* Jan. 2017, Aug. 2017, Jan. 2018
- Conducted extracurricular education for elementary school students in underprivileged areas as a team leader
- Volunteer Camp**, *Global Inter-culturing and Volunteering* Aug. 2016
- Conducted various volunteers in Cambodia including education for 40+ elementary school students

## SKILLS

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**Programming:** R, Python, MATLAB, C, C++, L<sup>A</sup>T<sub>E</sub>X  
**English Skill:** iBT: 109 (R30, L30, S22, W27), GRE: Verbal 157, Writing 4.0  
**GRE Subject Test:** Mathematics (Scaled Score: 970, Percentile: 97%)