# Garam Kim

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## EDUCATION

**Technische Universität Berlin**, Berlin, Germany 09.2020 - 03.2024 (expected)
M.Sc. student in Scientific Computing Cumulative GPA: 1.9
- Master's thesis: Beyond alternative projections: Accelerated alternating linear minimizations
  Advisor: Prof. Sebastian Pokutta

**Pusan National University**, Busan, South Korea 03.2019 - 08.2020
Master of Science in Mathematics GPA: 1.0
- Master's thesis: Convergence of Newton's method in solving quadratic matrix equation with artificial neural network
  Advisor: Prof. Hyun-Min Kim
- Brain 21 Korea plus Award (Academic performance, government funding scholarship)

**Universität Hamburg**, Hamburg, Germany 03.2018 - 08.2018
Guest student in MathMods (Joint Master's Degree, Mathematical Modelling in Engineering)

**Universität Regensburg**, Regensburg, Germany 09.2017 - 02.2018
Exchange Student

**Pusan National University**, Busan, South Korea 03.2013 - 02.2019
Bachelor of Science in Mathematics GPA: 2.18
Major in Mathematics Education
- University designated scholarship (2013-2015)

## PUBLICATIONS

Young-Jin Kim, Garam Kim*, Sangil Kim*, Dawoon Jung & Minwoo Park. (2021). "Designing optimizing procedures for task switching to ensure efficiency in the hospital laboratory". Scientific reports 11, 12717.

## EXPERIENCE

**Interactive Optimization and Learning**, Zuse Institute Berlin Berlin, Germany
*Student Research Assistant* 08.2021 - Present
- Given a feature map, devised a mathematical scheme for kernel herding iterates and implemented finite and the Matèrn kernel in the infinite-dimensional setting to simulate acceleration.
- Developed new mathematical schemes for alternating linear minimizations over strongly convex sets and polytopes to prove accelerated convergence rate.

**Industrial Mathematics Center on Big Data**, Pusan National University Busan, South Korea
*Graduate Research Assistant* 03.2019 - 08.2020
- Designed a mathematical model to improve work efficiency in a large hospital. The model is on average 10% more efficient than the existing system and reduces 50% of outliers.
- Developed models to predict real estate prices using machine learning tools to analyze and interpret big time-series data.
- Translated "Gilbert Strang, Linear Algebra and Learning from Data" (Cambridge Univ Pr, 2019) into Korean in a team.
- Held a seminar on basic Python to analyze data and led a project on "Making a better city."

## TEACHING

**Pusan National University**, Busan, South Korea
Teaching Assistant
- Provided in-person/online assistance in answering questions, assessed assignments, and supervised exams.
- Linear Algebra (Spring/Summer 2019), Calculus II (Fall/Winter 2019/20), Analysis I (Spring/Summer 2020).

## SKILLS

- **Programming:** Python/PyTorch, MATLAB, Julia, Git, LaTeX.
- **Communication:** Korean, English, German (intermediate level).