# Minji Kim

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## Education

**University of North Carolina at Chapel Hill (UNCCH)** — *Chapel Hill, NC*

Ph.D. student in Statistics and Operations Research — *Aug 2021 - May 2026 (expected)*

- Advisor: Dr. Vladas Pipiras

**Seoul National University (SNU)** — *Seoul, South Korea*

MS Statistics, BS Statistics, Minors in Computer Science and Engineering — *2015 - 2019 (BS), 2019 - 2021 (MS)*

- MS Advisor: Dr. Hee-Seok Oh

## Publications

**M. Kim**, T. Wen, K. Lee, Y. Choi. PINNs with conditional neural fields for reduced order modeling (In prep).

**M. Kim**, B. Brown, V. Pipiras. Parametric multi-fidelity Monte Carlo estimation with applications to extremes (In prep).

**M. Kim**, K. O'Connor, V. Pipiras, T. Sapsis. (2024), Sampling low-fidelity outputs for estimation of high-fidelity density and its tails, submitted to SIAM/ASA Journal of Uncertainty Quantification.

- The manuscript has been reviewed and requires minor revisions before final acceptance (as of August, 2024).

**M. Kim**, V. Pipiras, A. Reed, K. Weems. (2023), 'Calibration of low-fidelity ship motion programs through regressions of high-fidelity forces', *Ocean Engineering* **290**, 116321.

**M. Kim**, H. Oh, and Y. Lim. (2023), 'Zero-Inflated Time-Series Clustering Via Ensemble Thick-Pen Transform', *Journal of Classification* **40**, 407–431.

## Work Experience

Summer 2023 **Software Engineer Research Intern**, Moloco, WA, Seattle

- Identified distribution shift in the DL environment, formulated it using the ML terminologies, and proposed corrective weighting strategies. Extracted bidding price data using SQL to run simulation and draw inference.

Summer 2022 **Graduate Intern (NSF MSGI)**, Lawrence Livermore National Laboratory, remote

- Contributed to *libROM*. Gained hands-on experience with data-driven large-scale physics simulation codes.

### Teaching Experience and Technical Skills

- *Instructor* for STOR 155 Introduction to Data Models and Inference (FA 2024, UNCCH)
- *Teaching Assistant* for Introduction to Deep Learning (SP 2022, UNCCH), Methods of Data Analysis (SP 2022, FA 2021, UNCCH), Sampling Design and Survey (FA 2020, SNU), Design and Analysis of Experiments (SP 2020, SNU), Lab (SP 2020, FA 2019, SNU)
- *Programming Skills* Julia, R, C++, Python, Java, C, SQL, Git, Linux, Bash, LaTeX.
- *Libraries and Tools* PyTorch, TensorFlow, Keras, scikit-learn, glmnet, dplyr, pandas, NumPy, ggplot2, Matplotlib, Seaborn

## Awards and Scholarships

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| 2024 | **Graduate Student Transportation Grant Award**, UNCCH | *$ 3000* |
| 2024 | **SIAM UQ24 Student Travel Award**, SIAM | *$ 800* |
| 2022 | **Cambanis-Hoeffding-Nicholson Award**, University of North Carolina at Chapel Hill<br>• An award for outstanding academic performance in first-year doctoral program | *$ 400* |
| | **National Science Foundation Mathematical Sciences Graduate Internship (NSF MSGI)**, Oak Ridge Institute for Science and Education | *$ 12,000* |
| 2021 | **Korean Government Scholarship for Overseas Study**, Korean Government<br>• 5 students in the Intelligent Infrastructure field selected nationwide | *$ 80,000* |
| 2015 | **The Presidential Science Scholarship**, Korea Student Aid Foundation<br>• 24 students in the Mathematics field selected nationwide to foster the world's core scientist group | *Full Tuition + Incentives* |