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 — *Mar 2019 - Feb 2021*
Advisor: Dr. Hee-Seok Oh

BS STATISTICS, MINORS IN COMPUTER SCIENCE AND ENGINEERING — *Mar 2015 - Feb 2019*

Publications

S. Cheung et al., 'Survey on quadrature point selection in hyper-reduced order models for finite element methods' (In prep).

M. Kim, B. Brown, V. Pipiras, 'Parametric multi-fidelity Monte Carlo estimation with applications to extremes', submitted.

M. Kim, T. Wen, K. Lee, Y. Choi, (2024), 'Physics-informed reduced order model with conditional neural fields', NeurIPS 2024 Workshop on Machine Learning and the Physical Sciences (to appear).

M. Kim, K. O'Connor, V. Pipiras, T. Sapsis, (2024+), 'Sampling low-fidelity outputs for estimation of high-fidelity density and its tails', *SIAM/ASA Journal on Uncertainty Quantification* (to appear), available at arXiv:2402.17984.

M. Kim, V. Pipiras, T. Sapsis. (2024), 'Statistical Reduced-Order Modeling of Peaks of Vertical Bending Moment in Irregular Waves', *Proceedings of the 35th Symposium on Naval Hydrodynamics (SNH)*, Nates, France.

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 shifts in real-time bidding for advertisements and applied corrective weighting strategies. Extracted and analyzed large-scale data using SQL to simulate and infer outcomes.

Summer 2022 **Graduate Intern (NSF MSGI)**, Lawrence Livermore National Laboratory, remote
- Gained hands-on experience with data-driven large-scale physics simulation codes in C++ (***libROM***).

TECHNICAL SKILLS

Programming 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

Teaching Experience

Instructor for STOR 155 Introduction to Data Models and Inference (2024F, UNCCH)
Teaching Assistant for Introduction to Deep Learning (2022Sp, UNCCH), Methods of Data Analysis (2022Sp, 2021F, UNCCH), Sampling Design and Survey (2020F, SNU), Design and Analysis of Experiments (2020Sp, SNU), Lab (2020Sp, 2019F, SNU)

Awards and Scholarships

2022 **Cambanis-Hoeffding-Nicholson Award**, UNCCH
- An award for outstanding academic performance in first-year doctoral program

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 — *$ 80,000*
- 5 students in the Intelligent Infrastructure field selected nationwide

2015 **The Presidential Science Scholarship**, Korea Student Aid Foundation — *Tuition + Incentives*
- 24 students in the Mathematics field selected nationwide to foster the world's core scientist group