

Hojin Kim

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Education

The Pennsylvania State University
PhD in Informatics

PA, United States
Aug. 2024 – Present

Seoul National University
MS in Aerospace Engineering

Seoul, Republic of Korea
Mar. 2021 – Feb. 2023

Seoul National University
BS in Aerospace Engineering

Seoul, Republic of Korea
Mar. 2015 – Feb. 2021

Research Interest

Computational Fluid Dynamics (CFD), Machine learning, Turbulence, Optimization

Honors and Awards

The Ruth Young Boucke Graduate Fellowship

Aug 2024

The Robert W. Graham Endowed Graduate Fellowship

The Pennsylvania State University, PA, United States

Merit-based Scholarship

Seoul National University, Seoul, Republic of Korea

Spring 2015, Spring 2022

Work-study Scholarship

College of Engineering, Seoul National University, Seoul, Republic of Korea

Fall 2018, Spring 2019

Publication

Kim, H., Shankar, V., Viswanathan, & Maulik, R. (2024). “Generalizable data-driven turbulence closure modeling on unstructured grids with differentiable physics.” *arXiv preprint arXiv:2307.13533*.

Barwey, S., **Kim, H.**, & Maulik, R. (2025). “Interpretable A-posteriori error indication for graph neural network surrogate models.” *Computer Methods in Applied Mechanics and Engineering*, 433, 117509.

Yang, S., **Kim, H.**, Hong, Y., Yee, K., Maulik, R., & Kang, N. (2024). “Data-driven physics-informed neural networks: A digital twin perspective.” *Computer Methods in Applied Mechanics and Engineering*, 428, 117075.

Conference

77th Annual Division of Fluid Dynamics Meeting

Kim, H., & Maulik, R.

“Differentiable physics for generalizable closure modeling of separated flows”

Salt Lake City, UT, USA

Nov. 2024

48th European Rotorcraft Forum

Kim, H., Seo, J., Lee, D., Hong, Y., & Yee, K.

“Design Methodology of Urban Air Mobility for Noise Mitigation at the Conceptual Design Stage”

Winterthur, Switzerland

Sep. 2022

Technologies

Languages: Python, C++, Fortran