SANGJOON LEE

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https://sangjoonlee.info/

RESEARCH INTERESTS

Fluid mechanics (emphasis in CFD), computational analysis, energy and environment

- Modeling, computing and interpreting motion of turbulent flows and concurrent scalar transports in both effective and efficient manner
- Investigating environmental flow problems involving clean energy (i.e. wind turbine) and pollution (i.e. wildfire & micro-particle dissemination) applications

EDUCATION

University of California, Berkeley – Berkeley, California, USA — Aug. 2019 -
Ph.D. Student, Mechanical Engineering (Advisor: Dr. Philip S. Marcus)

- Designated emphasis in *Computational and Data Science and Engineering*

Seoul National University – Gwanak, Seoul, South Korea — Mar. 2012 - Aug. 2018
** 2-year leave of absence for military service*
B.Sc., Mechanical & Aerospace Engineering
B.B.A., Business Administration

- Representative of the Engineering Class of 2018 (*Summa cum laude*)

PUBLICATIONS

1. LEE, S., & HWANG, W. (2019). **Development of an Efficient Immersed-Boundary Method with Subgrid-Scale Models for Conjugate Heat Transfer Analysis using Large Eddy Simulation.** *International Journal of Heat and Mass Transfer, 134*, 198-208. doi:10.1016/j.ijheatmasstransfer.2019.01.019.
2. BAEK, S., LEE, S., HWANG, W., & PARK, J. S. (2018). **Experimental and Numerical Investigation of the Flow in a Trailing Edge Ribbed Internal Cooling Passage.** *Journal of Turbomachinery, 141* (1), 011012. doi:10.1115/1.4041868.

RESEARCH EXPERIENCE

Researcher *(Supervisor: Dr. Wontae Hwang)* — Jul. 2017 - Aug. 2018
Energy & Environmental Flow Lab, Seoul National University

- Development of conjugate heat transfer codes with an efficient interpolation scheme
- Flow visualization using magnetic resonance velocimetry and large eddy simulation

Research Intern *(Supervisor: Dr. Haecheon Choi)* — Sep. 2016 - Dec. 2017
Turbulence, Flow Control & CFD Lab, Seoul National University

- Large eddy simulation of flow around a rotating small vertical axis wind turbine
- Source code study on CFD based on an immersed boundary method as a part of undergraduate thesis program

TEACHING EXPERIENCE

Graduate Student Instructor, University of California, Berkeley — Aug. 2019 -
Experimentation and Measurements (MEC ENG 103)

- Taught experimental techniques for mechanical engineering, run lab sessions, graded assignments and reports, had office hours and answered questions in person and online

HONORS & AWARDS

Outstanding Graduate Student Instructor (OGSI) Award — Apr. 2021
GSI Teaching & Resource Center, University of California, Berkeley

- Recognition of outstanding work in the teaching of undergraduates

Overseas Ph.D. Scholarship, Study Abroad Doctoral Program — Aug. 2019 - Jul. 2023
Ilju Academy & Culture Foundation

- Merit-based financial aids of $120,000 for promising Ph.D. students studying out of Korea

National Scholarship for Science and Engineering — Mar. 2012 - Dec. 2017
Korea Student Aid Foundation (KOSAF)

- Full-tuition scholarship for undergraduates with strong academic performance