Hansol Lee

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Citizenship: South Korea

Research interests

Embedded cooling, Thermal management of WBG semiconductors, Manifold microchannel heat sinks, Microchannel heat sinks, Thermal-electronic transport

Education

Mar. 2022 – Feb. 2024 **Master of Science, Mechanical Engineering, Korea Advanced Institute of Science and Technology (KAIST).** ***4.26/4.3.***
Thesis: One-dimensional thermal-hydraulic modeling of manifold microchannel heat sinks
Advisor: Sung Jin Kim

Mar. 2015 – Feb. 2022 **Bachelor of Science, Mechanical Engineering, Korea Advanced Institute of Science and Technology (KAIST).** ***3.81/4.3.***

Honors and scholarships

2021 Outstanding Achievement Award (Department of Mechanical Engineering in KAIST)

2021 Scientific Writing Competition in KAIST – Encouragement Award

Publications

2024 **One-dimensional model of manifold microchannel heat sinks: Prediction of thermal performance and flow non-uniformity** *(Under review)*
Hansol Lee, Young Jin Lee, Sung Jin Kim.

2024 **On the flow non-uniformity and temperature distribution of ultra-thin manifold microchannel for embedded cooling** *(In progress)*
Young Jin Lee, **Hansol Lee**, Sung Jin Kim.

Conferences

Apr. 2023 **Thermal performance prediction of liquid-cooled manifold microchannel (MMC) heat sinks with plate fins** *(Oral presentation)*
Korean Society Mechanical Engineering Thermal Engineering Division

Research experience

Mar. 2023 – Feb. 2024 **Investigation on the flow non-uniformity and thermal performance of manifold microchannels (MMC) for embedded cooling**
Advisor: Sung Jin Kim (KAIST).

- Analytical thermal-hydraulic modeling of manifold microchannels (MMC) for embedded cooling of high-heat flux electronics.
- Development of theoretical thermofluidic modeling and in-house codes.

Mar. 2023 – Feb. 2024 **Thermal integrity analysis of PIM heterogeneous package**
Project with Electronics and Telecommunications Research Institute (ETRI).

- Reduced order thermal modeling of process-in-memory (PIM) heterogeneous package.
- 3-D numerical thermofluidic modeling of NPU-PIM heterogeneous package.

Industry experience

Fall 2018 **Beflex (Research Assistant)** – Daejeon, Korea
Analyzing key metrics for runners. Validity check of the algorithms in the runner tracking device. Internal research regarding wearable devices for runners.

Activities

Mar. 2022 – Jun. 2023 Student press of department of Mechanical Engineering in KAIST
Writing and editing a research interview article in monthly publication (ME Newsletter).

Skills

Programming languages (MATLAB, Python, Scheme), Commercial CFD softwares (ANSYS Fluent, Icepack)