Sanghyun Lee's C.V.

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Blog: https://bear11235.github.io

Education

B.S.

- Mechanical Engineering in Seoul National University
- 2016~2020

M.S. & Ph.D.

- Mechanical Engineering in Seoul National University
- 2020~Present

Courses

Fluid Mechanics

- Inviscid / Viscous Flow
- Advanced Gas Turbine
- Internal Flow
- Introduction of CFD

ML/DL

- Machine Learning
- Deep Learning
- Artificial Neural Network
- Introduction of ML in Aerospace
- AI and Big Data in Unmanned Vehicle

Others

- Advanced Thermodynamics
- Convective Heat Transfer
- Continuum Mechanics
- Advanced Computational Science
- Advanced Mechanical Computation

Research topics

- The effects of shroud shapes to flow in a low-pressure aviation turbine
- Utilizing Machine Learning / Deep Learning in fluid mechanics, especially in turbomachines
- Flow instability detection and identification in a turbopump inducer
- Reynolds stress prediction using ML/DL in wall-bounded turbulent flow under the pressure gradient in a low-pressure turbine.

Conferences

- 부분 쉬라우드 형상에 따른 저압 터빈의 공력 성능 변화 (1) (2020 한국추진공학회 추계학술대회)
- 부분 쉬라우드 형상에 따른 저압 터빈의 공력 성능 변화 (2) (2020 한국유체기계학회 동계학술대회)
- 서울대학교 1 단 축류 터빈 리그에 대한 구조적 안정성 해석 (2021 대한기계학회 춘추학술대회)
- CNN 기반 딥러닝을 통한 터보펌프 내 이익 인듀서 캐비테이션 불안정성 진단 (2022 한국추진공학회 추계학술대회)
- Deep-Learning Based Identification of Inducer Cavitation Instability (Mtt2622)

Skills

CFD programs

- ANSYS CFX, Fluent
- ANSYS IcemCFD for meshing
- TecPlot for post-process
- Solidworks, Fusion360 for CAD

Computer languages and programs

- Python, Jupyter
- HTML, CSS (just understand)
- Bash shell scripts in Linux
- Matlab
- Anaconda
- VScode and Pycharm

Computer OS

- Windows
- IOS / MacOS
- Linux/GNU - Ubuntu / Mint / CentOS / RHEL / Rocky

Computer Cluster Configuration

- Over 1000 CPU cores and 3-GPUs
- Network and security
- Parallel computing (ssh, file mount, sync, etc.)
- Job scheduling using Slurm
- Data Storage and Management

Interests

Playing and watching sports

- Badminton
- Squash
- Tennis
- Table Tennis

Listening music

- Classic (Piano, Violin, Symphony, etc.)
- POP

Struggling with electronic devices

- Constructing my home server
- Getting closer to Linux
- Seeking for new concepts of devices

Posting my blog

- To make motivation for studying
- To report what I've done
- To share my Linux experiences

Others

Military Service:

- 전문연구요원 예정 in SNU (2023.09~)