Biographical sketch for Dr. Romit Maulik

Leadership Computing Facility,
Argonne National Laboratory, Lemont, IL 60439
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Education and Training

Argonne National Laboratory, Leadership Computing Facility, Postdoc, 2019–Present.
Oklahoma State University, Mechanical & Aerospace Engineering, Ph.D., 2019.
Oklahoma State University, Mechanical & Aerospace Engineering, M.S., 2015.
Birla Institute of Technology, India, Mechanical Engineering, Bachelor of Engineering, 2012.

Research and Professional Experience

2019–Present: *Postdoctoral Fellow*, Leadership Computing Facility, Argonne National Laboratory.
2019–2019: *Predoctoral Fellow*, Mathematics & Computer Science division, Argonne National Laboratory.
2014–2018: *Graduate Research Assistant*, Mechanical & Aerospace Engineering, Oklahoma State University.
2012–2013: *Design Engineer*, Tata Technologies Ltd., Pune, India.

Honors and Awards

[1] Margaret Butler Fellowship, Leadership Computing Facility, 2019.
[2] Outstanding Graduate Student, College of Engineering Architecture and Technology, Oklahoma State University, 2018.
[3] Graduate College Robberson Summer Research Fellowship, Oklahoma State University, 2017.
[4] John Brammer Fellowship, Oklahoma State University, 2016.
[5] Graduate College Top Tier Fellowship, Oklahoma State University, 2016.

Related Publications

1. S. Renganathan **R. Maulik**, V. Rao : Machine learning for Nonintrusive Model Order Reduction of the Parametric Inviscid Transonic Flow past an airfoil, *Accepted in-press, Physics of Fluids*, 2020.
2. **R. Maulik**, O. San, J. Jacob: Spatiotemporally dynamic implicit large eddy simulation using machine learning classifiers, *Physica D.*, 406, 132409, 2020.
3. **R. Maulik**, A. Mohan, B. Lusch, S. Madireddy, P. Balaprakash, D. Livescu: Time-series learning of latent-space dynamics for reduced-order model closure, *Physica D.*, 405, 132368, 2020.
4. **R. Maulik**, V.Rao, S. Madireddy, B. Lusch, P. Balaprakash: Using recurrent neural networks for nonlinear component computation in advection-dominated reduced-order models, *Machine learning for Physical Sciences workshop, NeurIPS*, 2019.
5. **R. Maulik**, O. San, J. Jacob, C. Crick: Online turbulence model classification for large eddy simulation using deep learning, *Journal of Fluid Mechanics*, 870, 784-812, 2019.

6. **R. Maulik**, O. San, A. Rasheed, P. Vedula: Subgrid modeling for two-dimensional turbulence using artificial neural networks, *Journal of Fluid Mechanics*, 858, 122-144, 2019.
7. **R. Maulik**, O. San, A. Rasheed, P. Vedula: Data-driven deconvolution for large eddy simulation of Kraichnan turbulence, *Physics of Fluids*, 30, 125109, 2018.
8. O.San, **R.Maulik**: Extreme learning machine for reduced order modeling of turbulent geophysical flows, *Physical Review E*, 97, 042322, 2018.
9. O.San, **R.Maulik**: Machine learning closures for model order reduction of thermal fluids, *Applied Mathematical Modelling*, https://doi.org/10.1016/j.apm.2018.03.037, 2018.
10. **R.Maulik**, O.San: A neural network approach for the blind deconvolution of turbulent flows, *Journal of Fluid Mechanics*, 831, 151-181, 2017.

Synergistic Activities

1. Program Committee - Argonne Data Science Project allocations : Reviewed allocation requests for 21 million core hours and 190 TB storage.
2. Co-organizer - Argonne National Laboratory - AI, Statistics and Machine Learning Journal Club.
3. Session chair - AIAA Aviation Forum, Reno, NV, 2020.
4. Session chair - SIAM Conference on Mathematics of Data Science, Cincinnati, OH, 2020.
5. Session chair - SIAM Conference on Computational Science and Engineering, Spokane, WA, 2019.