Kedar Wagh

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Education

Indian Institute of Science — **Bangalore, India**
PhD, CGPA – 8.6/10 — *2020–Present*

Relevant Coursework:

- Computational Gas Dynamics, Finite Element Methods, Computational Fluid Dynamics, Numerical Linear Algebra, Fluid Dynamics, Gas Dynamics

Savitribai Phule Pune University — **Pune, India**
Bachelor of Engineering, (Mechanical, CGPA – 8.78/10) — *2015–2019*
First Class with Distinction

Research Interests

Robust higher order discontinuous Galerkin methods:

- My research interests are in the development of higher-order discontinuous Gakerin (DG) methods and kinetic schemes for hyperbolic conservation laws with a primary focus on shock-capturing algorithms and entropy stability in such frameworks. I am also interested in developing genuinely multidimensional extensions for higher-order numerical methods for hyperbolic balance laws. Currently, I also experiment with augmenting DG solvers with machine learning techniques and the use of neural networks to approximate the solution of hyperbolic PDEs.

Industry Experience

Forbes Marshall Ltd. — **Pune, India**
Research Project Intern — *Jul 2018 - Jun 2019*

- The aim was to experimentally measure the flow rate of flashing flow through an orifice as a simplification to steam trap and investigate the impact of outlet geometry on flow rate
- Participated in design, planning and assembly of experimental setup

Teaching Experience

Indian Institute of Science — **Bengaluru, India**
Teaching Assistant for DS226: Introduction to Computing for AI and ML — *Aug 2022 - Dec 2022*

- Designed and evaluated problem sets, quizzes and exams. Conducted tutorials
- Course covered wide range of topics starting from IEEE floating point to Deep Neural Networks

NCM Workshop — **IISER-TVM, India**
Tutorial Assistant — *Sept 2022*

- Software support for tutorial session in NCM Workshop on "Numerical Methods for Partial Differential Equations"

Workshops

- Participated in NCM Workshop on "Numerical Methods for Partial Differential Equations" held in September 2022 at IISER-TVM
- Participated in NSM India CFD GPU Bootcamp held in March 2022
- Participated in IGP/IWR School 2021 on “Hardware Aware Scientific Computing” in October 2021

Co-curricular Activities

DRDO National competition: — **Pune, India**
Group Lead — *Jan 2018 – Apr 2018*

- Ideation and design of an unmanned military rescue vehicle
- Project qualified for the semi-final stage; INR 10,000 prize won

SUPRA SAEINDIA, formula race-car competition **Delhi, India**
Team Member *Jun 2016 - Jul 2017*

- Designed and manufactured chassis for a formula type race-car and competed at National level

Extracurricular Activities

Agumbe Rainforest Research Station (ARRS) **Karnataka, India**
Research Volunteer, Telemetry team *March 2020*

⇒ Field work including data collection and radio tracking of King Cobra snake in rainforest

- Successfully completed the **Basic Herpetology** course from INHER Pune, India, July 2019
- Successfully passed **Grade 8 Rock and Pop Electric Guitar examination** conducted by Trinity School of London in November 2017.

Skills

- **Programming languages:** C++, Python
- **Tools:** MATLAB, ANSYS, Solid Works, Paraview, Pointwise
- **Languages:** English (fluent), Hindi (fluent), Marathi (fluent), German (basic)

Achievements

- Secured all India rank of 1039 in GATE 2020 (score: 773/1000) in Mechanical Engineering stream
- Received INSPIRE Scholarship of Central Government of India in 2015.

Community Service

- Delivered a talk on research opportunities for youth for ISHRAE Thane Chapter in April 2022.