

# Kedar Wagh

✉ kedars@iisc.ac.in

## Education

### Indian Institute of Science

PhD, CGPA – 8.6/10

Bangalore, India

2020–Present

### Relevant Coursework:

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

### Savitribai Phule Pune University

Bachelor of Engineering, (Mechanical, CGPA – 8.78/10)

First Class with Distinction

Pune, India

2015–2019

## Research Interests

### Robust higher order discontinuous Galerkin methods:

- My research interests are in the development of higher-order discontinuous Galerkin (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.

Research Project Intern

Pune, India

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

Teaching Assistant for DS226: Introduction to Computing for AI and ML

Bengaluru, India

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

Tutorial Assistant

IISER-TVM, India

Sept 2022

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

## Referee Service

- 10<sup>th</sup> International Congress on Industrial and Applied Mathematics (ICIAM) 2023, Tokyo

## 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:

Group Lead

Pune, India

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**

*Team Member*

**Delhi, India**

*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)**

*Research Volunteer, Telemetry team*

**Karnataka, India**

*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.

## **References**

---

**Prof. S. V. Raghurama Rao (PhD Supervisor)**

*Associate Professor, Department of Aerospace Engineering*

**raghu@iisc.ac.in**

**Prof. Sashikumaar Ganesan (PhD Supervisor)**

*Associate Professor and Chair, Department of Computational and Data Sciences (CDS)*

**sashi@iisc.ac.in**