

EDUCATION

Indian Institute of Technology Kanpur Ph.D. in Aerospace Engineering, Advisor: Prof. Sanjay Mittal CPI: 9.5/10	Sept,2020 - Current
Indian Institute of Technology Kanpur M.Tech in Aerospace Engineering, Advisor: Prof. Sanjay Mittal CPI: 9/10	Aug,2018 - July, 2020
Indian Institute of Engineering science and technology Shibpur B.Tech in Aerospace Engineering CPI: 7.6/10	Aug,2014- June,2018

CURRENT PROJECTS

Investigation on aerodynamic center of an airfoil at Low Re	Sept 2020-Current
<ul style="list-style-type: none">The aerodynamic center of the airfoil/wing plays a significant role in determining the static stability characteristics of an aerial vehicleWe study the validity of existing definitions of the aerodynamic center from the perspective of low Re flows	
Shape optimization of airfoils for desired pitching moment coefficient	Sept 2020-Current
<ul style="list-style-type: none">A negatively sloped $\bar{C}_m - \alpha$ curve is a necessity for longitudinal static stability of an aerial vehicle; a horizontal tail helps in achieving that.This work uses a gradient-based optimization method based on the continuous adjoint approach to design airfoils with the desired pitching moment for low Reynolds numbers flows.	

EXPERIENCE

Indian Institute of Technology Kanpur Research Intern – Conceptual design of a high altitude unmanned UAV	Summer 2017
Hindustan Aeronautics Ltd, Barrackpore Industrial trainee – Maintenance and overhaul of Chetak and Cheetah Helicopters	Jan 2017
IAMPL, Bangalore (A HAL-Rolls Royce JV company) Quality control engineer(intern) – Correlation analysis on compressor seal of a commercial aircraft engine	Summer 2016

PUBLICATIONS

1. **Arnesh Maji**, Jawahar Sivabharathy Samuthira Pandi and Sanjay Mittal, “**Aerodynamic center of an airfoil at low Re** ”, to be submitted in *Physics of Fluids*

PH.D. COURSEWORK

- Boundary layer instability and transition (AE617A)
- Computational Fluid Dynamics and Heat Transfer (ME630A)
- Advanced Computational Fluid Dynamics (ME634A)
- High Performance Computing and Machine Learning (PHY690W)

COURSE PROJECTS

Solving Burgers’ equation using MPI (Course: PHY690W) Jan 2021-Apr 2021

- Created a python based parallel(mpi4py) code for solving Burgers’ equation in a cubic domain with various initial conditions.
- Achieved good scaling using the HPC 2010 system at IITK

TEACHING

- **Teaching Assistant** at IIT Kanpur Sept 2021-Current
Compressible Aerodynamics (AE311)
- **Teaching Assistant** at IIT Kanpur Jan 2021 -May 2021
Finite Element Method for Fluid Dynamics(AE618)

SKILLS

- **Programming:** C, C++, Python, Fortran
- **Visualization Tools:** Tecplot, Gnuplot
- **Miscellaneous:** Microsoft Office, L^AT_EX

LANGUAGES

- **English:** Professional proficiency
- **Bengali:** Native / Bilingual Proficiency
- **Hindi:** Native / Bilingual Proficiency

SCHOLARSHIPS AND AWARDS

- Prime Ministers’s Research Fellowship September 2020-Ongoing