

MISBA MANZOOR

+91-6005865320 · misba22660@gmail.com · Ganderbal, Jammu & Kashmir, India

PROFILE SUMMARY

Mechanical engineering researcher with expertise in computational fluid dynamics (CFD), heat transfer, and numerical modeling. Developed a customized thermal-energy-coupled OpenFOAM solver (pimpleHeatFoam) to analyze flow and heat transfer over heated bluff bodies. Experienced in solver development and mesh generation. Skilled in leveraging machine learning (CNN architectures) for CFD data processing and optimization. Passionate about advancing high-fidelity simulations, integrating AI tools with engineering solvers, and exploring next-generation turbulence models for industrial and research applications.

TECHNICAL SKILLS

OpenFOAM
SolidWorks
CATIA

AutoCAD
Fusion 360
C programming

MS Office
OriginPro

EDUCATION

M.Tech in Design Engineering

October 2023 - August 2025

University of Kashmir, Srinagar,
Kashmir
CGPA: 9.47/10

B.Tech in Mechanical Engineering

September 2018 –December2022

University of Kashmir, Srinagar, Kashmir
CGPA: 7.51/10

CERTIFICATES

Fusion 360

Credential ID G-2023-G2483-0622

CATIA

Credential ID CE/JK/02/1113

Autodesk Certified Professional: AutoCAD

Credential ID CE/JK/02/1113

Certified SOLIDWORKS Associate

Credential ID CE/JK/02/1102

RESEARCH EXPERIENCE

M.Tech Thesis (2024–2025): Coupled CPD-Deep learning analysis of Flow over Heated Bluff Bodies with a Customized OpenFOAM Solvers. Simulated and validated aerodynamic coefficients Cd, Cl and Nusselt numbers (Nu) against benchmark literature for Integrated convolutional neural networks (CNNs) with CFD to enable rapid prediction of flow and thermal fields with <5% error and significantly reduced computation time.

ACADEMIC PROJECTS

- Influence of solidity on Vertical axis wind turbine using CFD: Numerical Investigation.
 - Numerical Investigation of Vertical Axis Wind Turbine Blades Using NACA 0018 and S809 Airfoils:
 - Turbulence Modeling and Performance Analysis.
Coupled CPD-Deep learning analysis of Flow over Heated Bluff Bodies with a Customized OpenFOAM Solvers.
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PROFESSIONAL & TEACHING EXPERIENCE

Teaching Aisstant /Apprentice Trainee -University of Kashmir **09/2024-Present**

Instructing undergraduate courses such as Industrial Engineering;Power Plant Engineering,Heat Transfe, and Applied Thermodynamics.Conducting and overseeing laboratory sessions in heat ternasfer and Applied Thermodynamics.

Intern - Maruti Suzuki E ARENA, Jamkash Vehicleads **08/2022-09/2022**

Engaged in hands-on vehicle diagnostics, defect analysis, and maintenance processes, gaining a foundational understanding of automotive systems and sensor functions.

Intern - JKPDCL (USHP-II Kangan), Ganderbal **09/2020 – 10/2020**

linstructing undergraduate courses such as Industrial Engineering;Power Plant Engineering;Heat Transfer,And Applied Thermodynamics.Conducting and overseeing laboratory sessions in heat ternasfer and Applied Thermodynamics.

Intern - The Biker's Domain, Jammu **12/2019 – 02/2020**

Assisted in two-wheeler service operations, including component inspection and maintenance procedures across various workshop departments.

ACHIEVEMENTS

B.Tech:

- PMSS Scholarship recipient.
- Overall Performance Award, Department of Mechanical Engineering.

M.Tech:

- Gold Medalist in M.Tech Program.
 - Merit-cum-Means Scholarship Recipient.
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REFERENCES

Dr. Farooq Ahmad Najar

Department of Mechanical Engineering
University of Kashmir – Srinagar, J&K.
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Assistant Professor

Qazi Junaid Ashraf

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Assistant Professor

Dr. Junaid Hassan Masoodi

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Assistant Professor