ANAND ZAMBARE

MASTER OF SCIENCE (MS) IN FLUID MECHANICS*

CONTACT

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Indian Institute of Technology Madras, 600036 Chennai, Tamilnadu, India.

TOOLS

- OpenFOAM
- Python
- LaTeX/Overleaf
- Veusz
- ParaView
- Linux scripting
- InkScape
- Canva

SKILLS

- CFD modelling
- Data analysis
- Scientific writing
- Scientific communication

Graduate Course/TA work

- Advanced Fluid Mechanics
- Vortex dynamics
- Computational Heat and Fluid Flow
- Turbulence modelling
- Combustion technology
- Teaching Assistance for Fundamentals of CFD using FVM (Jul-Nov 2022)

Projects

- Comparative study of solvers for system of linear equations
- Implementation of RSM for flow past a cylinder using PDR approach in OpenFOAM

LinkedIn

Github

REFERENCES

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ACADEMICS

Education

- Master of Science in Fluid Mechanics, Department of Applied Mechanics, Indian Institute of Technology Madras*, 600036, Tamil Nadu, India
- Bachelor of Technology in Mechanical engineering, Vishwakarma Institute of Technology, 411037, Pune, Maharashtra, India

MS thesis work

Department of Applied Mechanics, IIT Madras (Jul 2021-Dec 2023)

- Working on premixed explosion modelling for safety applications using opensource code (PDRFoam) in OpenFOAM
- PDRFoam code evaluation using standard benchmark experiments for hydrocarbon and hydrogen
- Analyzing data using OpenFOAM utilities and python scripting
- Goal oriented writing for various national and international conferences and journals

B.Tech thesis work

Department of Mechanical Engineering, VIT Pune (Dec 2019- Oct 2020)

- Development of an algorithm for solving Differential equations using Wavelet method
- Application of algorithm to 1-D Linear, convection, Nonlinear convection, Burgers equation. Also 2D scalar convection, stokes equation.

INDUSTRIAL EXPERIENCE

Forbes Marshall: R&D Kasarwadi, Pune, Maharashtra, India

- Development work: Annular fins design for electronics cooling in steam trap monitoring system. Experiments and CFD modelling
- Float buckling modelling for optimum float size design

Publications:

- M. Dhiman, A. Zambare, P. Sathiah, V. D. Narasimhamurthy , "CFD simulations of vapour cloud explosions using PDRFoam", Journal of Loss Prevention in the Process Industries, (under revision).
- A. Zambare, V. D. Narasimhamurthy, T. Skjold, H. Hisken, "Hydrogen explosion modeling using porosity/distributed resistance (PDR) approach", 11th European Combustion Meeting, Rouen, France, 2023. (Conference paper)
- A. Zambare, V. D. Narasimhamurthy, T. Skjold, "Vapour cloud explosion modeling using the porosity distributed resistance (PDR) approach", 67th congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM), IIT Mandi, India, 2022. (Conference abstract)
- Zambare, A., Swakul, V. & Kulkarni, A. Natural Convection Heat Transfer Characteristics of the Annular Fins on the Measuring and Monitoring Devices. J. Inst. Eng. India Ser. C 102, 485–493 (2021). https://doi.org/10.1007/s40032-021-00668-w