

Sairam Jinnawar

+91-96198-87913

sairamjinnawar@gmail.com

Mumbai, Maharashtra, India

www.linkedin.com/in/saijinnawar/



PROFILE SUMMARY

Mechanical Engineer specialising in ventilation, Computational Fluid Dynamics (CFD) modelling, and Indoor air Quality (IAQ) performance improvement. Experienced in HVAC load calculations, sensor based monitoring, and data driven optimisation strategies that enhance building ventilation efficiency and operational reliability.

EXPERIENCE

Indian Institute of Technology Bombay

Mumbai, India

Project Research Assistant

Oct 2025-Present

- Led CFD-based ventilation system optimisation focused on airflow distribution, contaminant transport, and indoor air quality performance.
- Integrated real-time indoor air quality (IAQ) sensor data with simulation models to support analytical HVAC performance evaluation.
- Analysed ventilation performance indicators including ACH, ART, airflow uniformity, and stagnation zones to inform design improvements.
- Developed data-driven ventilation control strategies balancing IAQ targets and energy efficiency.
- Performed simulation to experiment validation, achieving agreement within 10 per cent to ensure model reliability.
- Prepared 3D CAD models and assemblies using SolidWorks, AutoCAD, and Revit for ventilation and IAQ system design.
- Reviewed simulation results and technical data; supported documentation and reporting for design decisions.
- Coordinated with engineers and researchers across international partner institutions (Japan-India collaboration).

Indian Institute of Technology Bombay

Mumbai, India

Senior Project Technical Assistant

Jun 2023 - Sept 2025

- Delivered CFD-driven analysis and optimisation of ventilation and airflow systems for indoor environments.
- Conducted steady-state and transient CFD simulations using ANSYS Fluent for HVAC and airflow performance assessment.
- Defined boundary conditions, solver settings, and meshing strategies to represent realistic indoor airflow scenarios.
- Evaluated system performance using ACH, ART, velocity fields, pressure drop, and stagnation zone analysis.
- Analysed CO2 decay and tracer gas data to validate simulation outputs and support design optimisation.
- Processed and visualised CFD and experimental datasets using Tecplot, MATLAB, MS Excel, and Origin.
- Developed digital workflows for IAQ monitoring data integration and ventilation performance analysis.
- Created 2D and 3D CAD designs using AutoCAD, SolidWorks, SpaceClaim, and Revit to support engineering documentation.
- Supported engineering design teams by translating CFD results into actionable performance insights.
- Ensured sensor data quality through calibration analysis and comparative evaluation of IAQ monitoring devices.

Maxcool Technologies (India) Private Limited

Navi Mumbai, India

Senior HVAC Design Engineer

Sept 2022 - May 2023

- Led a team of junior engineers, managed HVAC design and documentation workflows.
- Coordinated with architects and teams to deliver accurate design docs and Bill of Quantities.
- Monitored project timelines, budgets, and quality standards.
- Prepared HVAC documentation, compliance reports, data sheets, and drawing registers.
- Performed HVAC design using Carrier HAP and Trace 700, conducted load calculations, analysis, and equipment sizing per ASHRAE/ISHRAE.
- Reviewed energy consumption to identify efficiency improvements.

- Prepared executive reports and facilitated internal and client meetings.

Maxcool Technologies (India) Private Limited

Junior HVAC Design Engineer

Navi Mumbai, India

Aug 2021 - Sept 2022

- Designed HVAC systems using Carrier HAP, AutoCAD, SolidWorks, and Revit, followed ASHRAE standards.
- Conducted heating and cooling load calculations for accurate equipment sizing.
- Calculated ESP and pump head to select fans and pumps for ducted and chilled water systems.
- Developed HVAC layouts, schematics, and duct routing plans, ensured clash-free coordination.
- Calculated ventilation airflows and AHU selection to meet IAQ and pressurisation targets.

EDUCATION

Mahakaushal University, Jabalpur, India

2023

Master of Technology in Thermal Engineering,

University of Mumbai, Mumbai, India

2021

Bachelor of Engineering in Mechanical Engineering,

PUBLICATIONS

- **Jinnawar, S.**, Sachidanandan, N., Pareek, M., Singh, P., Sethi, V., Sinha, K. (2024, December). “Computational fluid dynamics-based assessment of exhaust fan placement for improved indoor air quality.” Conference of Indian Aerosol Science and Technology Association (IASTA), Dehradun, India.
- Shukla, A., **Jinnawar, S.**, Pareek, M., Sinha, K. (2025, June). “Optimizing Classroom Ventilation and Assessing Spatio-Temporal Distribution of CO2 Using Experimental Monitoring and Computational fluid dynamics simulations.” Poster presented at Indoor Air Quality Management, Indian Institute of Technology Bombay, Maharashtra, India.
- Pareek, M., Shukla, A., **Jinnawar, S.**, Sinha, K. (2025, August). “Investigating CO2 based indoor air quality of classroom using real-time measurements and computational fluid dynamics approach.” Conference of Healthy Building 2025, Hyderabad, India.
- Naik, G., **Jinnawar, S.**, Bose, M., Sinha, K. (2025, August). “Investigating Indoor Airflow: Real-Scale Flow Field Measurement Using Streak Velocimetry.” Conference of Healthy Buildings 2025, Hyderabad, India.
- Mandal, A.K., Singh, P., **Jinnawar, S.**, Sinha, K.(2025, June) “Indoor Air Quality Prediction and Interventions.” Poster presented at Indoor Air Quality Management, Indian Institute of Technology Bombay, Maharashtra, India.
- Shukla, A., **Jinnawar, S.**, Pareek, M., Sinha, K.(2025 December). “Optimising Classroom Ventilation and Assessing Spatio-Temporal Distribution of CO2 Using Experimental Monitoring and CFD Simulation.” Submitted to International Journal of Ventilation (under review).

TECHNICAL SKILLS

CAD and Simulation - AutoCAD, Solidworks, Revit, SpaceClaim, Ansys Fluent CFD, Trace 700, HAP, Originplot, Tecplot 360, MATLAB

Tools - MS Office, Latex

Operating Systems - Windows, Linux, macOS

LANGUAGE PROFICIENCY

English, Hindi, Marathi, Telugu

ACCOLADES

- *Executive Diploma in Business Management* Jan, 2024
- *Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) Certified Engineering Professional* Aug, 2024