

Sagar Srivastava

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ACADEMIC QUALIFICATIONS

Year	Degree	Institute	Score
2020	B.Tech.-M.Tech. Dual	Indian Institute of Technology Kanpur	BT : 8.0/10.0 MT : 9.3/10.0
2014	AISSCE(CBSE)	GN National Public School, Gorakhpur	94.2% (95.0% in Mathematics)
2012	AISSE(CBSE)	GN National Public School, Gorakhpur	10.0/10.0

ACHIEVEMENTS

- **Best Paper Presentation Award** at 3rd Sustainable Energy & Environmental Challenges Conference for paper titled: **Effectiveness of Catalytic Converter in Reducing Regulated Emissions from a Methanol fueled SI Engine** (2018)
- Grade A in Automation & Simulation Summer School at **RWTH International Academy**, Aachen, Germany in three subjects: Numerical Methods, Automation and German Language (A1 level) (Project Presentation | Code) (2017)
- Secured **AIR - 820 (99.3 percentile)** in JEE Advanced and **AIR - 1177 (99.9 percentile)** in JEE Mains exams (2015)
- Qualified **Special Class Railway Apprentice (SCRA)** exam (written): secured **99.85 percentile** in the exam (2015)

INDUSTRIAL EXPOSURE

- Ecozen Solutions Private Limited : Thermal Engineering Intern (R&D)** (May'18-July'18)
Project Supervisor: Mr. Alok Nikhade (Thermal Engineer, R&D) (Project Report)
- Development of **solar powered micro cold-storage** system via experiments and CFD analysis in **ANSYS Fluent 19.0**
 - Experiments for investigating the **airflow** across a **single orange** in a long **square duct** and its **numerical validation**
 - Modelled **airflow** through orange crates during **precooling** in a micro cold-storage using **porous media definitions**
 - Estimated **drag and lift forces** on the solar panels at **different angles of inclination** under **harsh windy conditions**

M. TECH. THESIS

- Development of Royal Enfield 500 cc Methanol (M85) Fueled Prototype** (May'19-Present)
Thesis Supervisor: Prof. Avinash Kumar Agarwal
- Displaced gasoline by **high octane methanol** by **85%(v/v)** in SI engine to reduce emissions **without power reduction**
 - **Calibrated open ECU** on **36 KW transient dynamometer** for optimum **fuel and spark timing maps** for M85 fuel
 - **Fine tuning** of the engine on a **42 KW chassis dynamometer** for achieving **better drivability** in real road conditions
 - Experimental investigation of **performance, combustion & emission** characteristics of methanol fueled two-wheeler

ACADEMIC PROJECTS

- Pseudopotential Multiphase LBM Model** (Computational Fluid Dynamics) (May'17-June'17)
Project Supervisor: Prof. Malay K. Das (Research Paper | LBM Code)
- Critically analysed **Shan Chen Lattice Boltzmann Model** for fluids with **high density ratios** using a numerical code
 - Effects of **S-L interaction strength** on **surface wettability** and the **interphase interaction strength** on **surface tension**
 - Achieved a decrease in **spurious currents** by **50%** with the **E8** scheme and by **51%** with the grid refinement to **401×401**
 - Numerical simulations via parallel computing in **FORTRAN**; data plotting and analysis in **MATLAB** and **TecPlot**
- Box Shifting and Stamping Assembly** (Manufacturing Processes II) (Jan'17-April'17)
Project Supervisor: Prof. Sounak Kumar Choudhary (Project Reports I & II)
- Developed an assembly to **translate boxes linearly** and **put stamps** on two of its faces using a **single power source**
 - Designed system components & visualized motion transfers in **AutoDesk Inventor**; fabricated all components in lab
- Water Flow Controller** (Manufacturing Processes I) (Aug'16-Nov'16)
Project Supervisor: Prof. Rajiv Shekhar (Project Reports I & II)
- Designed and manufactured a **mechanical system** to **control amount of water** flowing through a duct for farm use
 - No auxiliary power input; minimal maintenance; prepared **marketing brochure, business plan & costing analysis**

POSITIONS OF RESPONSIBILITY

- Teaching Assistant** (Course: Alternate fuels and Advances in IC Engines) (July'19-Present)
- Assisted Course Instructor with the **preparation of study material** and proper conduction of **lectures and tutorials**
 - Acted as a **liaison** between the Course Instructor & about 20 students; supervised the **marking** of final examinations
- Organizing Member** (3rd Sustainable Energy & Environmental Challenges, IIT Roorkee) (Dec'18)
- **Chief coordinator** in evaluation of **papers & posters**: developed **evaluation forms** and **Macros** for accurate evaluation
 - Managed poster presentation round for about **20 posters**; responsible for smooth conduction of **technical sessions**
- Student Guide** (Counselling Service, IIT Kanpur) (July'16-Present)
- Counsellor and mentor to **five** undergraduate students of 2016 batch in **academics, career and professional** areas
 - Part of organising team for **Orientation Program- 2016**: coordinated between events and induction of Y16 students

PROFICIENCIES & COURSES

- **Programming & Technical Skills**: C | Python | MATLAB | L^AT_EX | AutoDesk Inventor | AutoCAD | NI LabVIEW | ANSYS Fluent | ANSYS Workbench (Fluent) | TecPlot 360 | Origin | MS Office tools | Engine Management Systems
- **Relevant Courses**: Thermodynamics | Fluid Mechanics | Energy Systems | Heat and Mass Transfer | IC Engines | Combustion | Turbulence | CFD | Refrigeration & Air Conditioning | Finite Element Methods | Numerical Methods

PERFORMING ARTS

- A player of **acoustic, electric and bass guitars** and a classical, progressive and old school **rock music** enthusiast
- Guitarist in **Winning Team** in Musical Event of **Galaxy'16** (Cultural Festival): clean sweep in all musical categories