

Pinaki Acharya

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SUMMARY

I am a Mechanical Engineering graduate student at NC State University. Currently, seeking entry level opportunities in areas of HVAC and Thermal systems to enhance my skillset. Presently working on my Master's Thesis – Study of Spray Cooling in Liquid Piston Compressor for Ocean Compressed Air Energy Storage System.

EDUCATION

M.S. Mechanical Engineering

North Carolina State University, Raleigh
CGPA: 3.81/4

B.E. (Hons.) Mechanical Engineering

BITS Pilani, K. K. Birla Goa Campus, India
CGPA 7.68/10

Relevant Courses: HVAC, Convective Heat Transfer, CFD
Microfluidics and Nanofluids, Fluid Dynamics of Combustion

WORK EXPERIENCE

- **AO RESEARCH INSTITUE, DAVOS** June 17-July 17
"Numerical Simulations of 3D printer needle to study shear stress distribution"
 - Worked in the Bio-mechanical development group, to study the effect of shear stress on biological cells through the Bio-3D printer nozzle.
 - Simulated in OpenFoam 4.1 for different pressure, tip diameter and viscosity.
- **INDIAN INSTITUTE OF TECHNOLOGY, KANPUR** Jul'15 –Dec'15
"Direct Numerical Simulations of Rectangular Synthetic Jets" under Prof. A.K. Saha.
 - Studied the phenomenon of axial switching and vortex bifurcation in the flow visualization.
 - Simulated Jet for aspect ratio 1, 2 in two-dimensional domain. Observed bifurcation and strong trailing jet.
- **INSTITUTE OF MINERALS AND MATERIAL TECHNOLOGY, BHUBANESWAR** May'14-Jul'14
"Study of Entrained Flow Gasification of F-Grade Coal and Dolochar" under Department of D&RT
 - Optimization of F-grade Coal and Dolochar for Entrained Flow Gasification, project under Steel Authority of India Ltd.
 - Calculated an optimum ratio of 85% fuel with 15% moisture for Gasification process for 80:20 mass ratio of F-grade coal and Dolochar.

PROJECTS

- **Design of Net-Zero Energy Building-Integrated Sustainable Building Design (ASHRAE Student Design Project)** Jan'17- May 17
 - Project included working on passive building structures, use of on-site renewable energy and water conservation initiatives to create a net zero energy building in compliance with LEED standard
 - Worked on design of Building Envelope, Lighting Loads, and Baseline Energy Modeling on Carrier HAP according to ASHRAE 90.1 G Appendix.
 - Worked on the building cost and life cycle analysis for the proposed design.
- **Design and Fabrication of Formula1 Based Vehicle** Sep'13 - Jul'14
 - Involved in the team to conceptualize, design and fabricate a formula style race car prototype and gained knowledge pertaining to all systems, especially on vehicle dynamics.
 - Designed the brake system and aided in construction of race car by fabricating, welding and assembling of various components over the course of the year.
 - Presented at national level competition **SUPRA SAE India 2014** and ranked **23** out of 100 teams present.

TECHNICAL SKILLS

Carrier HAP, ANSYS ICEM CFD, Tecplot360, ANSYS Fluent, Maple, MATLAB, Microsoft Office Suite, Revit, Solidworks, eQUEST, OpenFOAM, Proficient in different machining techniques, like lathes, milling, drilling machine

POSITION OF RESPONSIBILITY

- Graduate Teaching Assistant –Course MAE 201 at NC State –Thermodynamics Aug'17-Dec'17
 - Assisted students during regular class and office hours, and grade assignments.
- Teaching Assistant for the Course MEF441 at BITS Goa –Automotive Vehicle Dynamics Jan'16-May 16
 - Aided in preparing lecture slides and presentations for class strength of 70
 - Organized and reviewed project papers for students.
- Event Manager for RC car event at Quark'15 Annual Technical Festival of BITS Goa Feb'15
 - Designed and maintained racing track, ensured proper running of event
 - Coordinated and managed multiple teams for a 3-day event

AWARD

- Recipient of Paul Stahl Scholarship from ASHRAE Triangle Chapter for academic year 2017-18 May 17