Pankaj Garg
Mechanical Engineering
Indian Institute of Technology Bombay
Specialization: Thermal and Fluids Engineering

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M.Tech.
DOB: 15/09/1992

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2016	8.59
Undergraduate Specialization:	Mechanical Engineering			
Graduation CBSE	Kurukshetra University	JMIT Radaur	2013	77.01
Intermediate/+2	CBSE	MRRA Sr. Sec. School	2009	84.60
Matriculation	CBSE	MRRA Sr. Sec. School	2007	84.40

Professional Experience

Air Conditioning Research and Development Engineer(LG Electronics, Pune) [July 2016-Dec. 2017]

- Responsible for the Inverter model development(cassette and ducted-split) as a commercial air conditioner and wall mounted residential air conditioner.
- Integral Member of the Multi-variable refrigerant flow model development team and field failure restriction task team.

Scholastic Achievements

- Secured AIR 144 (99.92 percentile) in GATE 2014 amongst 1.85 lakh students.

Academic Projects

Master's Project | CFD Modeling of Two Phase Flows using Parabolic Solvers

(Guide: Prof. Kannan Iyer, IIT Bombay) [May 2015-June 2016]

Objective*:* To develop a CFD code for Two Phase Flows.

- Developed two phase solver for homogeneous flow model and two fluid model of incompressible laminar flow in C++ using axi-symmetric cylindrical coordinates with parabolic technique.
- Developed Navier-Stokes solver for axisymmetric turbulent flow in a pipe using Launder-Sharma k-ε model in C++.
- Developed a solver for determination of heat transfer coefficient in axisymmetric laminar flow in a pipe using parabolic marching method.

Bachelor's Project | Design of EOT Cranes (Components)

(Guide: Prof. Amit Kumar, JMIT Radaur) [Feb. 2013– May 2013**]**

- Industrial project (CHANDERPUR WORKS PVT LTD., Yamunanagar) to Design Crane components according to required specifications (velocity and height).
- Modelled the components on SOLIDWORKS and AutoCAD.

M.Tech. Course Projects

Computational Fluid Dynamics and Heat Transfer	• Developed an Incompressible Navier-Stokes Solver (in MATLAB) for flow in a Lid Driven Cavity. • Validated code results with standard published results.
Air Conditioning System Design	• Calculated air conditioning requirements of indoor badminton court, IIT Bombay. • Selection of optimum air conditioning System with higher reliability and least effect on environment. • Duct design for proper air circulation.
Two Phase Flow and Heat Transfer	• Presented seminar on Segmented Flow in Micro-Channels. • Analyzed the effect of two phase flow on pressure drop and heat transfer coefficient. • Comparative study between two phase and single phase flows for better heat transfer.
Cryogenics Engineering	• Presented numerical and experimental methods of calculating force between superconductor and magnet.

Minor Project| Joint Operation Machine [Aug. 2012– Dec. 2012]

- Fabricated scaled model of shaper, drilling, and cutting machine together on a single frame with a common power drive.
- Purpose- To synchronize the peak load of different machines so as to reduce total power requirement.

Industrial Training

Hindustan Machine Tools Ltd., Pinjore (Haryana) [July 2011]

- Studied and analyzed manufacturing process of tractors and associated components.
- Understood the different cutting operations and working of assembly lines.

Deenbandhu Chhotu Ram Thermal power plant, Yamunanagar (Haryana) [July 2012]

- Studied and analyzed working of boilers and turbines.

Positions of Responsibility

Teaching Assistant | Mechanical Department, IIT Bombay

Nuclear lab [July 2014-Nov. 2014]

- Guided over 150 UG students to conduct experiment on Beta Ray Technique for thickness measurement.

Engineering graphics and Drawing [Jan. 2015-May 2015]

- Invigilator during sessions and helped over 100 UG students on modeling software related problems.
- Prepared solutions for lab coursework in AutoCAD.
- Assessed assignments and end semester drawing sheets of students.

Election officer, Hostel 16, IIT Bombay

- Office bearer during Hostel 16 elections(2014).
- Successfully conducted elections for 23 posts (overall coordinators and secretaries) and associated activities like soap box.

Extra-Curricular Activities

- Won 1st prize for 'AAGHAZ' in dramatics, IIT Bombay. [2016]
- 100 hour Italian course from Department of International Relations, IIT Bombay. [2015]
- Team member of TECH- GSR, IIT BOMBAY to plan Water Supply and Distribution for village Hirewadi, Maharashtra. [2014-2015]
  - Recommended design for efficient water distribution system.
- Completed Yogathon challenge on International Yoga Day (108 Surya Namaskar Challenge). [2015]
- Won 3rd prize for 'One Act Play' in Dramatics, ENCHANTE at JMIT Radaur. [2010]

Exposure

Software proficiency	SOLIDWORKS, MATLAB Others : Latex, MS excel, Adobe Photoshop
Language	Programming Language: C, C++ Read/Write/Speak: English, Hindi, Punjabi
Interests	Playing Football, Badminton, Lawn tennis. Swimming and Cycling.

Key Courses

- Computational fluid dynamics
- Air conditioning and system design.
- Advanced heat transfer.
- Strength of Materials.