Siddharth Nandan Thakur | **09010006**
Mechanical Engineering | **UG Third Year (B.Tech.)**
Indian Institute of Technology, Bombay | **Male**
Specialization: B.Tech | **DOB: 12/06/1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	9.02
Intermediate/+2	Rajeev Gandhi Higher Secondary School, Bhopal	Central Board of Secondary Education	2009	92.20
Matriculation	Delhi Public School, Bhopal	Central Board of Secondary Education	2007	97.40

INTERESTS

Interested in working in the field of Thermodynamics and Heat Transfer **(Heat Pumps, Heat Exchangers and Refrigeration Systems)**. Currently pursuing **an honors degree in Thermal Engineering.**

SCHOLASTIC ACHIEVEMENTS

- Currently **ranked 6th** among 120 students in Department of **Mechanical Engineering**.
- Secured **All India Rank 391** among 400,000 students in IIT-Joint Entrance Examination 2009
- Was **ranked 9th in India** and **2nd in Madhya Pradesh** in Matriculation examination conducted by the CBSE.
- Secured **All India Rank 324** among nearly 1 million students in AIEEE-2009.
- Major Scholarships
  - Awarded **National Talent Search Examination (NTSE)** Scholarship in 2007 by NCERT.
  - **CBSE Scholarship** for exceptional academic performance in AIEEE.
- Pursuing a **Minors degree in Management Studies** with a Minor CPI of 9/10.
- **All India Rank 84** in National Science Olympiad in 2007.
- Completed **Advanced C++ Course** conducted by CEP under Prof. Supratim Biswas.

WORK EXPERIENCE

- **Student Research Assistant, Micro and Nano Transport Lab, University of Alberta, Canada**
  Topic - Theoretical and mathematical modeling of wetting phenomena on a pillared structure
  Guide - Prof. **Sushanta K. Mitra** (May 2011 – July 2011)
  - **Experimentally verified** the validity of various mathematical models that can be used to describe the transition from Wenzel to Cassie-Baxter
  - **Suggested modifications to one of the mathematical model and simulated it using MATLAB.** Using the model, studied **parametric variation on physical state from Wenzel to Cassie-Baxter** with variation of contact angle, pitch and dimensions of pillars.
  - The suggested model has improved the **conformity to established experimental results by 4 %.**
  - Being used for **validating current experimental results** and is in **consideration for publication** soon.

COURSE PROJECTS

- **Simulation of Micro-cutting in DeForm**
  Guide – **Prof. Ramesh Singh** Manufacturing Processes – II, Autumn 2011
  - **Simulated the process of microcutting** of Inconel-718 with a Tungsten Carbide tool in the DeForm simulating platform.
  - Analysed the **effects of different cutting speeds and depth of cuts** on the shearing forces, stress and **temperature profiles** and their repercussions on the final product. Hence, **recommended optimum cutting speed and depth of cuts for a workpiece to get given desired properties.**

- **Microsoft Case Study** **Marketing Management, Autumn 2010**
  Performed a case study on **Microsoft Corporation** using tools such as **SWOT, PESTLE and Porter's 5-Force Analysis** and suggested a new product 'Micro-pad' which Microsoft can launch based on market analysis.

- **Oil and Gas Pipes**
  Guide - **Prof. G.V.Prabhugaonkar** Engineering Metallurgy, Autumn 2010
  - **Analyzed the materials** used in building **pipes for transportation of oil and natural gas** on the basis of factors like **cost-effectiveness, availability, machinability and market abundance**
  - Recommended the best possible alternative and **a new alternative material** that can be implemented which **reduces cost by about 13%**.

- **Screw Jack Assembly**
  Guide – **Prof. Amitava De** Manufacturing Laboratory, Spring 2011
  - **Studied and determined the process flow** for the manufacturing of a Screw Jack Assembly
  - **Fabricated it** incorporating operations like **lathe, milling, shaping, drilling and welding**.

- **Mini UID Project**
  Guide – **Prof. D.B. Phatak** C++, Autumn 2009
  - **Developed a program** to store the fingerprint of a registered student through count of minutia.
  - **Stored** it in a **text file** to be used for unique identification for purposes like biometric attendance.
  - Also **documented** the program.

RELEVANT COURSES (*To be Completed by April 2012)

Core Courses and Labs	Other Relevant Courses
• Thermodynamics • Heat Transfer^ • Fluid Mechanics^ • Advanced Thermodynamics and Combustion • Applied Thermodynamics* • Refrigeration and Air-Conditioning* • Solid Mechanics I & II ^ • Manufacturing Processes I & II ^	• Industrial Engineering & Operations Research • Linear Algebra • Calculus & Differential Equations • Numerical Analysis • Data Handling & Interpretation • Accounting & Finance

^ - Indicates a corresponding Lab Course has also been completed.

SOFTWARES

Languages – C++ , HTML
Additional Softwares – MATLAB, LaTeX, SCILAB, MS-Office, DeForm
Operating Systems – Windows, Linux, Mac

POSITION OF RESPONSIBILITY

- **Internship Coordinator**, Mechanical Engineering, Practical Training Cell, IIT-Bombay
- **Class Representative**, Department of Mechanical Engineering (2009 Batch)

EXTRA CURRICULAR ACTIVITIES

- **Work Visit, HCL CommNet, Noida, India** **(May 2010)**
  Studied the role of **Very Small Aperture Terminals (VSAT)** in the field of business communication. Also learned basic algorithms used by HCL to measure uptime and user time and performed cost analysis.
- Travelled across 4 continents, 11 countries and more than 150 cities across the globe.