



Shrenik Bothra  
Energy Systems Engineering  
Indian Institute of Technology, Bombay

09D17015  
UG Third Year(Dual Degree )  
Male  
DOB: 18/3/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	6.81
Intermediate/+2	H.S.C Board	New English Jr College	2008	81.16
Matriculation	S.S.C Board	Saraswati Vidyalaya	2006	85.86

Objective: To obtain a position that will enhance my analytical skills, improve my application of learned concepts and ability to work with people

## PROJECTS

### Solar street lighting system (Jan- April 2010)

Advisor: Prof. Rangan Banerjee (IIT Bombay)

- Made a small model of solar street light which had the technique of **automatic switching** of lights by use of transistor etc.
- Designed the circuit and the functioning of the device.
- Designed the whole system** and analyzed the performance parameters of the system.

### Finger print detection and its application (C++) (Aug – Nov 2009)

Advisor: Prof. Deepak B. Phatak (IIT Bombay)

- Made an algorithm to match the input fingerprint with the stored fingerprint and would return a percentage match.
- This algorithm was implemented in a **unique identification device**. This device is used for taking class attendance.
- Led a team of five students to make and implement the algorithm in UID.

### Remote operated switch (Jan-April 2011)

Advisor: Prof. Rajesh Gupta

- Made remote operated switch which can be for **switching purposes** from a distance of 3 m.
- Implemented **desired switching** in the remote.

## ACADEMICS ACHIEVEMENTS

- Secured All India Rank **951** (out of 4, 00, 000 students) in the **IIT JEE** 2009
- Secured All India Rank **1495** (of 8, 00, 000 students) in the **AIEEE** 2009

## TECHNICAL ACTIVITIES

### Industrial visit to TATA Power Plant Trombay (Jan-April 2010)

Advisor: Prof. Rangan Banerjee (IIT Bombay)

- Analysed the working of the general coal based Power Plant and some of its performance parameters.
- Learned how plant used the waste heat to **increase the efficiency from 37 to 50%**.

### Wireless remote controlled car (Aug-Nov 2009)

- Designed** the exterior wooden part of car.
- Car won the best design award in F1 competition. This competition was for the freshmen of IIT Bombay.

### Intellectual property rights workshop (Aug-Nov 2009)

- Participated in the **workshop of six weekends** on Intellectual property rights fundamentals

- Learned how to **patent and copyright** the new techniques or device.

## Studied the electricity distribution and water supply system of IIT Bombay (Jan-April 2010)

Advisor: Prof. Rangan Banerjee (IIT Bombay)

## COURSES UNDERTAKEN

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### Core courses

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|--|---|
| <ul style="list-style-type: none"> <li>• Fundamental of energy engineering</li> <li>• Thermodynamics</li> <li>• Introduction to numerical analysis</li> <li>• Power electronics and machines</li> <li>• Electrical machines &amp; power electronics lab</li> <li>• #Fluid mechanics</li> <li>• # Heat and mass transfer</li> <li>• # Introduction to renewable technology</li> </ul> | <ul style="list-style-type: none"> <li>• Basic Electrical Engineering</li> <li>• Electricity and magnetism</li> <li>• Material science for energy application</li> <li>• Electronics</li> <li>• Electronics lab</li> <li>• # Thermal &amp; fluid Engineering Lab</li> <li>• # Energy Systems Lab</li> <li>• # Equipment Design and control</li> </ul> |
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### Breadth Courses

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|--|---|
| <ul style="list-style-type: none"> <li>• Engineering Drawing</li> <li>• Chemistry</li> <li>• Humanities and social science courses:<br/>Sociology, Economics.</li> <li>• Environmental studies</li> <li>• Mathematics courses: Calculus, Linear Algebra, Differential Equations</li> </ul> | <ul style="list-style-type: none"> <li>• Computer Programming &amp; Utilization</li> <li>• Data Interpretation &amp; Analysis</li> <li>• IPR (Intellectual Property Rights)</li> <li>• Workshop (cutting shaping etc. of metal or other hard object)</li> </ul> |
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# This courses will complete in November 2011.

## SOFTWARE SKILLS

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### Programming Languages

- C, C++, HTML

### Software Tools:

- Sequel, Adobe Photoshop, Scilab, Microsoft office, **MATLAB**, LaTeX

### Operating Systems:

- Linux, Microsoft Windows.

## Position of responsibility

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- Worked as an active **coordinator** of Techfest-2011, IIT Bombay's annual cultural festival.
- Worked as an active **coordinator** of Mood Indigo 2009, IIT Bombay's annual cultural festival.
- Worked as an active **organizer** of Techfest-2010, IIT Bombay's annual technical festival.

## Extra circulars

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### Movie making

- Made a **short film of seven minutes** titled "drugs dosti etc"
- Won **second position** in freshizaa 2009.

### Sports

- Participated in hostel intra wing football competition.
- Avid interest in lawn tennis, table tennis, badminton, swimming, **chess**.