

# RESUME BINDER



**IIT's best Resume(s)**



**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Ceramics & Composites**

**Dual Degree (B.Tech+M.Tech.)**  
**Female**  
**DOB: 26/09/1988**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.92

#### ACADEMIC ACHIEVEMENTS

- Currently ranked **2nd** in the Department, in the dual degree batch of 38 students
- Secured Institute **Academic Excellence Award** for outstanding academic performance [2009, 2010]
- Secured a perfect Semester Performance Index of **10.0** in Autumn '08
- Awarded **Minor** in Computer Science and Engineering after the successful completion of 5 courses
- Recipient of the **National Talent Search Scholarship** [2004]

#### POSITIONS OF RESPONSIBILITY

**Cabinet Member**, Student Mentorship Program (SMP) [2011-present]

- Part of the 7-member cabinet team that provides support and guidance to the SMP coordinators
- Conceptualized for the **first** time, **D-AMP charter**, a formal document defining structure of the *Department Academic Mentorship Program* (D-AMP) that guides underperforming students to improve their academic performance
- Advising **2 teams** comprising 25 mentors in all to counsel and guide **academically weak** 2<sup>nd</sup> and 3<sup>rd</sup> year students
- Initiated **curriculum review** in the department in collaboration with the Academic Council and faculty members

**Chief Editor**, Dhatuki (*Official Magazine of the Dept. of Materials Science and Engineering*) [2009-10]

- Led an **execution panel** of **20** members towards the successful release of **2 editions** of the magazine
- Conceptualized and successfully implemented the inclusion of an exclusive section for **Hindi** articles
- Designed and published a *Department Placement Newsletter*, for the **first** time ever in the department

**Music Incharge**, Performing Arts Festival (PAF) [Jan-Mar 2011]

- Led the Music team comprised of **16** members to win the **Best Music Trophy** in PAF 2011
- Coordinated the synchronization of completely **original, live music** belonging to 4 different genres

#### INTERNSHIPS AND KEY PROJECTS

**University of New Brunswick, Canada** (*Nanocomposite Multifunctional Fibers*) [May-Jul 2010]

- Received **2** awards- '**Best Non-Technical Article**' on advanced materials in **Canada**, and '**Best Non Technical Article**' in the University for a non technical article based on the research at **MITACS Globalink program** '10
- Manufactured and carried out systematic analysis of Spandex-Carbon Nanotube composite fibers to exploit their high thermal conductivity, for applications in **sportswear** fabric

**National Chemical Laboratory, Pune** (*Co-crystal formation and analysis*) [May-Jun 2009]

- Synthesized Co-crystals of water-insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drugs in water and analyzed various pairs of organic compounds for their solubilities

**Dual Degree Dissertation**, IITB (*Cantilever MEMS based Bio-sensors*) [Jul 2010-present]

- Currently fabricating **MEMS** cantilever based **biosensors** to detect the presence of excess glucose in the human body

**Behavioral Finance** (*Term Paper, Managerial Finance*) [Jan-Apr 2011]

- Studied and delivered a talk on influence of **psychology** of financial practitioners & its subsequent effect on **markets**

#### EXTRA CURRICULAR ACTIVITIES

##### Music

- Award for **exceptional performance** as the Music Incharge, for exemplary coordination of the music team and conceptualization and successful implementation of an **on-stage** live band for the **first time** in PAF '10
- Completed **4** years of formal training in Indian **Classical Music**, at Gandharva Mahavidyalaya, with **distinction**
- Lead Vocalist in **Institute Cultural Night** ('09), opened for performances by **Bhupinder Singh & Mohit Chauhan**
- Lead Vocalist in **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB

##### Others

- Awarded **Hostel Cultural Color** ('09) for leading the hostel to victory in inter-hostel cultural competitions
- Professionally trained in **Bharatnatyam** for **10** years having completed the basic course with **distinction**
- Completed Basic **French** Communication Course Module 1, by **Alliance Française**
- Won **1<sup>st</sup> Prize** in Materials Quiz at Padarth '10, technical festival of the Metallurgical Engineering Department
- Awarded **Technical Special Mention** ('09) for contributing to all inter-hostel technical competitions in the year



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Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.92
Intermediate/+2	Maharashtra State Board	Fergusson College, Pune	2006	89.67
Matriculation	Maharashtra State Board	Bal Shikshan Mandir, Pune	2004	91.60

#### ACADEMIC ACHIEVEMENTS

- Currently ranked **2nd** in the Department, in the dual degree batch of 38 students
- Received Institute **Academic Excellence Award** for outstanding academic performance [2009, 2010]
- Secured a perfect Semester Performance Index of **10.0** in Autumn '08
- Awarded **Minor** in Computer Science and Engineering after successful completion of 5 courses
- Recipient of the **National Talent Search Scholarship** [2004]
- **Gold medal** in the Ganit Pradnya (Mathex) examination [2002]

#### INTERSHIPS

**University of New Brunswick, Canada** [May-Jul 2010]

##### *Nanocomposite Multifunctional Fibers*

- One of the 75 students selected from all over India, under **MITACS** Globalink Program, 2010 to pursue research and attend conferences and project management workshops in Canada
- Manufactured and carried out systematic analysis of Spandex-**Carbon Nanotube** composite fibers
- Determined **optimum** loading ratio for highest thermal conductivity, for applications in **sportswear** fabric
- Received **2** awards- '**Best Non-Technical Article**' on advanced materials all over **Canada**, and '**Best Non Technical Article**' in The University of New Brunswick for a non technical article based on the research

**National Chemical Laboratory, Pune** [May-Jul 2009]

##### *Co-crystal Formation and Analysis*

- Synthesized Co-crystals of water insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drug in water; analyzed various pairs of organic compounds for their solubilities
- Experimentally determined ratio of the 2 compounds to be co-crystallized for **maximum solubility**

#### KEY ACADEMIC PROJECTS

**MEMS based Cantilever Bio-Sensors** (Dual Degree Dissertation) [Jul 2011-present]

- Currently analyzing various developments in the field of piezoresistive **cantilever MEMS devices**
- Working on the fabrication of a cantilever based Microelectromechanical System device that can be used as a **bio-sensor**, by detecting changes in the **resonant frequency** of the cantilever beam
- Employing methods such as Low Pressure Chemical Vapour Deposition, Photolithography, Spin coating etc in order to fabricate the device
- Plan to apply the same in the detection of **excess glucose** and cancerous tissues in the human body

**Size and Shape controlled Nanoceramics** (Junior Thesis) [Jan-Apr 2010]

- Conducted an extensive literature survey to analyze various techniques of **size and shape** controlled synthesis of various metal oxide nanoparticles
- Studied the applications of nanoceramics in day-to-day life and delivered a talk on the same

**Industrial Production of low-cost Dye Sensitized Solar Cells** (Business Plan) [Jul-Nov 2009]

- Developed a business model for the **low cost** manufacturing and distribution of Dye Sensitized Solar Cells (**DSSC**) as **alternative** sources of energy in remote locations

## Manufacturing Processes (Seminar)

[Jul-Nov 2010]

- Conducted extensive **literature survey** to analyze the principle, working and potential applications of Reactively Coupled Ion Induced Plasma Etching technique and presented a talk on the same

## Electronic Voting (Course Project, Computer and Network Security)

[Jan-Apr 2011]

- Analyzed the principles and requirements for a **secure e-voting** system, studied the challenges involved
- Studied various models proposed for the implementation of a successful e-voting system

## POSITIONS OF RESPONSIBILITY

### Cabinet Member, Student Mentorship Program (SMP)

[2011-present]

- Part of the 7-member cabinet team that provides support and guidance to the SMP coordinators
- Ensuring smooth functioning of the *Department Academic Mentorship Program (D-AMP)* for the **Aerospace** and **Metallurgical** Engineering Departments
- Conceptualized and drafted, for the **first** time, the **D-AMP charter**, a formal document that defines the structure of the D-AMP
- Advising a team of **14** mentors working to provide guidance and counseling to academically **weak** students
- Proposed and implemented **effective** teaching and **evaluation methods** and initiated **curriculum review**, in collaboration with the Academic Council and the faculty members, to promote academic vigor

### Chief Editor, Dhatuki

[2009-10]

*Official magazine of the Department of Metallurgical Engineering and Materials Science*

- Led an **execution panel** of **20** members towards the successful release of **2 editions** of the magazine
- Interviewed faculty members to portray the ongoing cutting edge research activities in the department
- Designed and published a *Department Placement Newsletter*, for the **first** time ever in the department

### Music Incharge, Performing Arts Festival

[Mar 2011]

- Led the Music team comprised of **16** members to win the **Best Music Trophy** in PAF 2011
- Composed the main background score and 4 **original** music tracks
- Coordinated the synchronization of entirely **live music** belonging to 4 entirely different genres

### Institute Student Mentor & Department Academic Mentor

[2010-11]

- Counseled **9** freshmen and **5** underperforming 2<sup>nd</sup> & 3<sup>rd</sup> year students to strike a good **balance** between academics and other activities and cope with academic pressure

## SOFTWARE SKILLS

## EXTRA CURRICULAR ACTIVITIES

- Proficient in C, C++, MATLAB, PYTHON, GNU OCTAVE

### Awards

- Award for **exceptional performance** as the Music Incharge, for exemplary coordination of the music team and conceptualization of an **on-stage** live band for the **first time** in PAF ('10), declared as '**Gem of the PAF**'
- Hostel **Cultural Colour** ('09) Award for representing the hostel in inter-hostel cultural competitions
- Hostel **Technical Special Mention** ('09) for active participation in technical competitions and **mentoring** hostel freshmen in technical events

### Music

- Completed 4 years of formal training in Indian Classical Vocal Music for 4 years, with distinction
- Was the Lead Vocalist in:
  - **Institute Cultural Night** ('09), opening for performances by **Bhupinder Singh** and **Mohit Chauhan**
  - **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB
  - PAF ('09, '10 & '11), inter-hostel General Championships and Western Music Concerts in the institute

### Others

- Professionally trained in **Bharatnatyam** for **10 years** having completed the basic course with **distinction**
- Completed Basic **French** Communication Course Module 1, by **Alliance Française**
- Won **1<sup>st</sup> Prize** in Materials Quiz at Padarth ('10), technical festival of the Metallurgical Engg. Department



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- Conceptualized and drafted, for the **first** time, the **D-AMP charter**, a formal document that defines the structure of the Department Academic Mentorship Program
- Advising a team of **14** mentors in the department working towards providing guidance and **counseling** to **academically weak** students, to cope with academic, extra-academic and other problems
- Proposed and implemented effective teaching and **evaluation methods** and initiated **curriculum review**, in collaboration with the Academic Council and the faculty members, to promote academic vigor

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- Composed the main background score and 4 **original** music tracks
- Coordinated the synchronization of **entirely live music** belonging to 4 entirely different genres **without** the use of any recorded track
- Specially appreciated as the lead vocalist by the judges

##### **Institute Student Mentor & Department Academic Mentor** [2010-11]

- Guided freshmen to strike a **balance** between academics and other activities and to cope with academic, extra academic and personal problems
- Counseled **5 academically weak**, second and third year students on a one-on-one basis, helping **all** of them successfully clear their **backlogs**
- Designed online **feedback forum** to gather student feedback regarding the performance of mentors

## INTERNSHIPS & KEY PROJECTS

University of New Brunswick, Canada

[May-Jul 2010]

*Nanocomposite Multifunctional Fibers*

- One of the 75 students selected from all over India, under **MITACS** Globalink Program 2010, to pursue research and attend conferences and project management workshops in Canada
- Received **2 awards- 'Best Non-Technical Article'** on advanced materials all over **Canada**, and '**Best Non Technical Article**' in The University of New Brunswick for a non technical article based on the research
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National Chemical Laboratory, Pune

[May-Jul 2009]

*Co-crystal Formation and Analysis*

- Synthesized Co-crystals of water insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drug in water; analyzed various pairs of organic compounds for their solubilities
- Experimentally determined ratio of the 2 compounds to be co-crystallized for **maximum solubility**

Dual Degree Dissertation, IITB

[Jul 2011-present]

*Cantilever MEMS Biosensors*

- Currently analyzing various developments in the field of piezoresistive **cantilever MEMS devices**
- Working on the fabrication of a cantilever based Microelectromechanical System device that can be used as a **bio-sensor**, by detecting changes in the **resonant frequency** of the cantilever beam
- Plan to apply the same in the detection of **excess glucose** and cancerous tissues in the human body

Junior Thesis, IITB

[Jan-Apr 2010]

*Size and Shape controlled Nanoceramics*

- Conducted an extensive literature survey to analyze various techniques of **size and shape** controlled synthesis of various metal oxide nanoparticles
- Studied the applications of nanoceramics in day-to-day life and delivered a talk on the same

Behavioral Finance (Term Paper, Managerial Finance)

[Jan-Apr 2011]

- Studied and delivered a talk on influence of **psychology** of financial practitioners and its effect on **markets**
- Systematically analyzed various behavioral problems among investors; suggested **preventive** measures

## EXTRA CURRICULAR ACTIVITIES

### Awards

- Hostel **Cultural Colour** ('09) Award for representing the hostel in inter-hostel cultural competitions
- Hostel **Technical Special Mention** ('09) for active participation in technical competitions and **mentoring** hostel freshmen in technical events
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### Music

- Completed **4 years** of formal training in Indian **Classical Vocal Music**, with distinction at the renowned Gandharva Mahavidyalaya
- Was the Lead Vocalist in:
  - **Institute Cultural Night** ('09), opening for performances by **Bhupinder Singh** and **Mohit Chauhan**, an event witnessed by an audience of 5000
  - **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB
  - PAF ('09, '10 & '11), inter-hostel General Championships and Western Music Concerts in the institute

### Others

- Professionally trained in **Bharatnatyam** for **10 years** having completed the basic course with **distinction**
- Completed Basic French Communication Course Module 1, by **Alliance Française**
- Won **1<sup>st</sup> Prize** in Materials Quiz at Padarth ('10), technical festival of the Metallurgical Engg. Department
- Qualified (placed amongst the **top 5**) for the final round of the Classical Dance Competition at Malhar '09



**Mechanical Engineering**  
**Indian Institute of Technology Bombay**  
**Specialization: Computer Integrated Manufacturing**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 03/04/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.38

### SCHOLASTIC ACHIEVEMENTS

- **CPI 10.0** in the advanced graduate level courses (Honors) in **Mechanical Engineering**
- One of the two students to obtain a **SPI 10.0** (8<sup>th</sup> semester) in the department

### INTERNSHIPS AND KEY ACADEMIC PROJECTS

**GENERAL ELECTRIC (GE) |** Research Centre, Bangalore (May'11-Jul'11)

*Characterization of Gas turbine nozzle*

**Only one out of 20 interns to receive the GE Global Recognition Award for INITIATIVE AND PROJECT SUPPORT**

- **Collaborated** with a team of three technicians to develop and calibrate a test setup in order to determine the concentration profile of the air-fuel mixture at the nozzle exit
- Improved the **combustion efficiency** of the turbine by **6%** through design modifications in the nozzle, leading to a fuel **cost savings of INR 1.6 Lakh** per day of turbine operation

**BOMBARDIER TRANSPORTATION LTD. |** Baroda (May'10-Jun'10)

*Optimization of assembly line for Delhi Metro Cars*

- **Improved safety** significantly through changes in the jig design to ensure proper fixturing of the cab door
- Reduced overall **lead time by 9%** through optimization of equipment and worker allocation to ensure effective utilization of equipment and minimize worker idling

**JYOTI LTD. |** Engineering division, Baroda (Jun'09-Jul'09)

*Fluid dynamic analysis of Francis turbine assembly*

- Simulated the fluid flow pattern and **identified cavitation** at different components in the assembly
- Improved hydraulic efficiency by 4% leading to a **32 KW increase in power output** of the turbine by incorporating design modifications to eliminate cavitation losses

**FEASIBILITY ANALYSIS OF TITANIUM TAPPING |** Masters' Thesis (Jun'12-Present)

- Developing a model for titanium tapping to **improve** the technical and economic feasibility of the process

**HOMOGENOUS CHARGE COMPRESSION IGNITION (HCCI) ENGINE |** Research Project (Jan'12-Present)

*Funded by the Department of Science & Technology, Government of India, New Delhi*

- Developing a HCCI engine capable of **higher efficiency and lower emissions** than conventional engines

### LEADERSHIP EXPERIENCE

**MENTOR, STUDENTS' TECHNICAL ACTIVITIES BODY (STAB)** (Jul'12-Present)

- Mentored and **motivated** a group of **30 freshmen** to encourage participation in institute technical events
- **Conceptualized and initiated** an online forum to encourage technical discussions amongst the freshmen
- Conducted weekly technical **help sessions** to guide the freshmen and clear their difficulties

**HOSTEL MUSIC AND DANCE SECRETARY** (Jul'09-Jun'10)

- Administered a budget of **INR 75k** to organize intra and inter-hostel music and dance events
- Initiated and **successfully executed** the "Hostel Music Night" in collaboration with three other secretaries
- **Spearheaded** a team of 7 members to bag the **1<sup>st</sup> position** in the Music Championship 2010 after 5 years

### EXTRA-CURRICULAR ACTIVITIES

**SPORTS**

- Awarded the Hostel **Sports Special Mention** for **two consecutive years** ('10 & '11)
- **Led** the 6-member hostel team to **Gold and Bronze medal wins** for two consecutive years in the Inter Hostel Volleyball General Championship ('09 & '10)
- Awarded the 1<sup>st</sup> degree **Karate Black Belt** after six years of rigorous training ('01)
- Placed **3<sup>rd</sup>** at the **District Karate Tournament** in the semi-contact fight event ('01)

**TECHNICAL**

- **Winner** of the Intra round and qualified for the finals to **represent IIT Bombay** in the amphibious vehicle building competition 'Enduro' at Techfest '09
- Built a **line follower robot** to successfully qualify for ROBOCON '09 Round 2
- Designed and fabricated a **working prototype** of the 'Pick and Place' device ('11)





**Mechanical Engineering**  
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**Specialization: Computer Integrated Manufacturing**

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**Male**  
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Examination	University	Institute	Year	CPI / %
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Intermediate/+2	CBSE	Navrachana School, Baroda	2008	92.80
Matriculation	CBSE	New Era School, Baroda	2006	92.20

### SCHOLASTIC ACHIEVEMENTS

- **CPI 10.0** in the advanced graduate level courses (Honors) in **Mechanical Engineering**
- One of the two students to obtain a **SPI 10.0** (8<sup>th</sup> semester) in the department

### PROFESSIONAL EXPERIENCE

**GENERAL ELECTRIC (GE) | Research Centre, Bangalore** (May'11-Jul'11)

*Characterization of Gas turbine nozzle*

**Only one out of 20 interns to receive GE Global Recognition Award for INITIATIVE AND PROJECT SUPPORT**

- Developed and **calibrated a test setup** to determine the concentration profile of the air-fuel mixture at the nozzle exit in collaboration with a team of three technicians
- **Validated** previously performed Computational Fluid Dynamics (CFD) simulations by qualitative and quantitative interpretation of the test result data
- Used the test result data to optimize and improve the nozzle design leading to a **6% improvement** in the combustion efficiency and corresponding **fuel cost savings of INR 7k** per hour of turbine operation

**BOMBARDIER TRANSPORTATION LTD. | Baroda** (May'10-Jun'10)

*Optimization of assembly line for Delhi Metro Cars*

- Modified jig design using the principle of dedicated fixturing to rigidly constrain the cab detrainment door, leading to an improved **shop floor safety**
- Developed guidelines for the installation of cab detrainment door using the modified jig; **imparted training** to the shop floor workers for the same
- **Optimized** equipment and worker allocation using Gantt charts to ensure effective utilization of equipment and minimize worker idling, leading to a **9% reduction** in overall **lead time**

**JYOTI LTD. | Engineering division, Baroda** (Jun'09-Jul'09)

*Computational Fluid Dynamics (CFD) analysis of Francis turbine assembly*

- **Simulated** fluid flow pattern inside the turbine assembly using ANSYS CFX followed by performance characterization at different flow rates
- Analyzed simulation results and **identified cavitation** at the runner blade outlet and the draft tube inside the turbine assembly
- Incorporated design modifications in the turbine assembly to minimize cavitation losses, resulting in a **4% increase** in hydraulic efficiency and a corresponding **32 kW increase** in **power output** of the turbine

### MASTERS' DISSERTATION

**TITANIUM TAPPING: MODELING AND VERIFICATION** (Jun'12-Present)

*Machining of titanium is one of the major challenges faced by the industry today*

- Extended an existing **mechanistic model** of titanium tapping by including the friction model
- Simulating the updated model in MATLAB and verifying the results with detailed Finite Element Method (FEM) simulations using DEFORM software
- Developing **design guidelines** to select optimal process parameters for industrial implementation of the titanium tapping process
- Currently validating the economic and technical **feasibility of the model** through experiments



## KEY ACADEMIC PROJECTS

### HOMOGENOUS CHARGE COMPRESSION IGNITION (HCCI) ENGINE

(Jan'12-Present)

*Funded by the Department of Science & Technology, Government of India, New Delhi*

- Performed detailed **analysis and simulations** of the combustion process (involving chemical kinetics) pertaining to gasoline HCCI in the software CHEMKIN
- Led a team of three technicians to develop a successful **experimental test setup** to convert a conventional carbureted Spark Ignition (SI) engine into a HCCI engine
- Used exhaust recirculation and temperature of intake air to effectively control the combustion process and **improve the load operating range** of the engine; currently characterizing the engine

### FINITE ELEMENT ANALYSIS (FEA) OF MICRO-MACHINING

(Jul'10-Nov'10)

*Micro-machining is being increasingly used to manufacture micro-scale products with a quality surface finish*

- **Investigated** the effect of machining parameters on the resultant stress, temperature and cutting forces through FEM simulations based in DEFORM software
- **Optimized** micro-machining for different work-piece materials including aluminum and steel; identified critical machining parameters for the process
- Validated the simulation results through experiments and **verified the "size-effect"** in machining in collaboration with team of four members

### OTHER KEY PROJECTS

**Bearing design for rolling mill:** Performed theoretical analysis to determine the type, size and lifetime of bearings and prescribed methods for fitment, preloading and alignment

**Optimization of sand mold casting process:** Used AUTOCAD-X to design and optimize a mold layout for a bracket casting to achieve a **yield of 93%** while minimizing the tooling cost

## LEADERSHIP EXPERIENCE

### MENTOR, STUDENTS' TECHNICAL ACTIVITIES BODY

(Jun'12-Present)

- **Mentored and motivated** 30 freshmen to encourage participation in institute technical events
  - 24 out of the 30 freshmen participated in the wireless robot race - XLR8 and two four-member teams finished in the top ten positions
- **Conceptualized and initiated** an online forum to encourage technical discussions amongst freshmen
- Conducted weekly technical **help sessions** to guide the freshmen and clear their difficulties

## EXTRA-CURRICULAR ACTIVITES

### SPORTS

- Awarded the Hostel **Sports Special Mention** for **two consecutive years** for a significant contribution to sports as a hostel member ('10 & '11)
- Bagged the **2<sup>nd</sup>** position (out of 100+ participants) in the first ever Institute Billiards Championship ('11)
- Led the 6-member hostel team to **Gold and Bronze medal wins** for two consecutive years in the Inter Hostel Volleyball General Championship ('09 & '10)
- Awarded the 1<sup>st</sup> degree **Karate Black Belt** (Shito-Ryu style) ('01)
- Placed **3<sup>rd</sup>** at the **District Karate Tournament** in the semi-contact fight event ('01)

### TECHNICAL

- **Winner** of the Intra round and qualified for the finals to **represent IIT Bombay** in the amphibious vehicle race 'Enduro' at Techfest '09
- Built a **line follower robot** to successfully qualify for ROBOCON'09 Round two
- Designed and fabricated a **working prototype** of the 'Pick and Place' device ('11)

### OTHERS

- **Selected** for 'Harvard US-India Initiative' aimed at solving India's socio-economic problems; presented public transport solutions at the conference ('12)



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- One of the two students to obtain a **SPI 10.0** (8<sup>th</sup> semester) in the department

### PROFESSIONAL EXPERIENCE

**GENERAL ELECTRIC (GE) |** Research Centre, Bangalore (May'11-Jul'11)

*Characterization of Gas turbine nozzle*

**Only one out of 20 interns to receive GE Global Recognition Award for INITIATIVE AND PROJECT SUPPORT**

- **Collaborated** with a team of three technicians to develop and calibrate a test setup in order to determine the concentration profile of the air-fuel mixture at the nozzle exit
- Validated previously performed simulations by qualitative and quantitative **interpretation of the results**
- Improved the **combustion efficiency** of the turbine by **6%** through design modifications in the nozzle, leading to a fuel **cost savings of INR 7k** (per hour of turbine operation)

**BOMBARDIER TRANSPORTATION LTD. |** Baroda

(May'10-Jun'10)

*Optimization of the Delhi Metro car assembly line*

- **Improved safety** significantly through modifications in the jig design to ensure proper fixturing of the cab detrainment door
- Developed guidelines for the installation of cab detrainment door using the modified jig; **imparted training** to the shop floor workers for the same
- Reduced overall **lead time by 9%** through optimization of equipment and worker allocation to ensure effective utilization of equipment and minimize worker idling

**JYOTI LTD. |** Engineering division, Baroda

(Jun'09-Jul'09)

*Fluid Dynamic analysis of Francis turbine assembly*

- Simulated the fluid flow pattern and **identified cavitation** at different components inside the assembly
- Improved efficiency by 4% leading to a **32 KW increase in power output** of the turbine by incorporating design modifications in the assembly to eliminate cavitation losses

### LEADERSHIP EXPERIENCE

**MENTOR, STUDENTS' TECHNICAL ACTIVITIES BODY**

(Jun'12-Present)

- **Mentored and motivated** a group of **30 freshmen** to encourage participation in institute technical events
  - 24 out of the 30 freshmen participated in the wireless robot race-XLR8 and two four-member teams finished in the top 10 positions
- **Conceptualized and initiated** an online forum to encourage technical discussions amongst the freshmen
- Conducted weekly technical **help sessions** to guide the freshmen and clear their difficulties

**HOSTEL MUSIC AND DANCE SECRETARY**

(Jul'09-Jun'10)

- Administered a budget of **INR 75k** to organize intra and inter-hostel music and dance events
  - **Initiated and successfully executed** the "Hostel Music Night" in coordination with three other secretaries
  - Renovated the music and dance room and procured quality instruments including the synthesizer
- **Spearheaded** a team of 7 members to bag the **1<sup>st</sup> position** in the Music Championship 2010 after 5 years
- Managed a team of more than 14 members for the Dance General Championship 2009

## KEY ACADEMIC PROJECTS

### FEASIBILITY ANALYSIS OF TITANIUM TAPPING | *Masters' Thesis* (Jun'12-Present)

*Machining of titanium is one of the major challenges faced by the industry today*

- Extended an existing model of tapping by including the friction model ; performed simulations in MATLAB to validate the model
- Developing **design guidelines** for selecting optimal process parameters to implement the process of titanium tapping for numerous applications
- Conducting **feasibility tests** to determine the model's economic viability for industries

### HOMOGENOUS CHARGE COMPRESSION IGNITION (HCCI) ENGINE (Jan'12-Present)

*Funded by the Department of Science & Technology, Government of India, New Delhi*

- **Led a team** of three technicians to develop a successful experimental test setup to convert a conventional carbureted SI engine into a HCCI engine
- Performed **detailed analysis** and simulations of the combustion processes involving chemical kinetics in CHEMKIN for the gasoline HCCI mode
- Currently **testing the engine** to obtain the characteristic curves of torque, power and efficiency versus speed in revolutions per minute (rpm)

### FINITE ELEMENT ANALYSIS (FEA) OF MICRO-MACHINING (Jul'10-Nov'10)

*Micro-machining is being increasingly used to manufacture micro-scale products with a quality surface finish*

- Simulated micro-machining to **investigate** the effect of machining parameters (feed rate, cutting velocity and rake angle) on stress, temperature and cutting forces
- **Optimized** micro-machining for different work-piece materials including aluminum and steel and identified critical machining parameters for the process
- Worked in a **closely-knit team** of four members to experimentally validate the simulation results and verified the "size-effect" in machining

### OTHER KEY PROJECTS

**Bearing design for rolling mill:** Performed theoretical analysis to determine the type, size and lifetime of bearings and prescribed methods for fitment, preloading and alignment

**Optimization of sand mold casting process:** Used AUTOCAD-X to design and optimize a mold layout for a bracket casting to achieve a **yield of 93%** while minimizing the tooling cost

## EXTRA-CURRICULAR ACTIVITIES

<b>SPORTS</b>	• Awarded the Hostel <b>Sports Special Mention</b> for <b>two consecutive years</b> for a significant contribution to sports as a hostel member	('10 & '11)
	• <b>Led</b> the 6-member hostel team to <b>Gold and Bronze medal wins</b> for two consecutive years in the Inter Hostel Volleyball General Championship	('09 & '10)
	• Bagged the <b>2<sup>nd</sup></b> position (out of 100+ participants) in the <b>first ever</b> Institute Billiards Championship	('11)
	• Awarded the 1 <sup>st</sup> degree <b>Karate Black Belt</b> (Shito-Ryu style)	('01)
	• Placed <b>3<sup>rd</sup></b> at the <b>District Karate Tournament</b> in the semi-contact fight event	('01)
<b>TECHNICAL</b>	• <b>Winner</b> of the Intra round and qualified for the finals to <b>represent IIT Bombay</b> in the amphibious vehicle race, 'Enduro' at Techfest '09	
	• Built a <b>successful line follower robot</b> to qualify ROBOCON '09 Round one	
	• Designed and fabricated a <b>working prototype</b> of the 'Pick and Place' device	('11)
<b>OTHERS</b>	• Selected to the 'Harvard US - India Initiative' aimed at solving India's socio economic problems; <b>presented</b> public transport solutions at the conference	('12)
	• Part of the workshop on " <b>Tech Startups</b> " organized by Yourstory.in	('12)
	• Coordinator, Corporate Relations, E-Cell, IIT Bombay	('09)



**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Computer Integrated Manufacturing**

**UG Third Year(Dual Degree )**  
**Male**  
**DOB: 4th March, 1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	9.17
Intermediate/+2	C.B.S.E.	KV IIT Bombay	2008	90.20
Matriculation	I.C.S.E.	Hiranandani Foundation School	2006	92.33

## INTERESTS

Vehicle Dynamics, Automotive control systems, Robotics and automation, Mechanics of Materials

## SCHOLASTIC ACHIEVEMENTS

- Ranked **3<sup>rd</sup>** in the Dual Degree class of **48** students in the Dept. of **Mechanical Engineering** [2010]
- Ranked **753<sup>rd</sup>** (of 3, 40, 000 students) in the **IIT Joint Entrance Exam** [2008]
- Ranked **380<sup>th</sup>** (of 6, 00, 000 students) in the **AIEEE** (All India Engineering Entrance Exam) [2008]
- Selected in the **top 1% students** in India in the **National Physics Olympiad** [2007]

## SUMMER INTERNSHIP

**University Putra Malaysia**

**Location :** Kuala Lumpur, Malaysia

**Department of Agricultural Robotics**

**Duration :** May 2010 – July 2010

Guide: Prof. Wan Ishak Wan Ismail, Department of Agricultural Robotics

- Designed and fabricated a 3 degree of freedom **robotic arm**
- Designed and implemented a **vision system based controller** on **MATLAB** to make the arm autonomous, such that it could identify and locate any obstacle in space
- Designed a motor driver circuit using a **PIC** microcontroller and a **H Bridge** such that once the obstacle is located, the arm could reach out to it
- Collaborated with **3** other students to prepare a **tutorial** for **post graduate students** on image processing and basic robotics

## PROJECTS UNDERTAKEN

### MEMBER OF THE RACING TEAM OF IIT BOMBAY

[Mar '10 - present]

- Currently working in a team of 18 students towards designing and manufacturing an **all-terrain vehicle** for the **BAJA SAE INDIA 2011** competition
- As a member of the vehicle dynamics team, designed the **suspension geometry** of the car and performed motion study simulation to achieve optimal geometry so as to **improve handling** of the car
- Performed **experiments** to study the **damping characteristics** of the spring-damper system using in cars, aimed at improving understanding of such systems, allowing us to make a more educated choice of dampers
- Carried out a thorough **analysis** of the **forces experienced** by the members of the suspension system. Accordingly performed a finite element analysis on the A-arms and uprights to ensure a safe and **effective suspension**

### COMPARATIVE STUDY OF GUIDANCE LAWS

[Feb-Mar '10]

Guide: Prof. Arpita Sinha, Department of Systems and Control Engineering

- Programmed graphical **simulations** on MATLAB of the different **classical guidance laws** for an agent chasing a given target in 2 dimensional space
- Carried out a comprehensive study of time of capture of the target, average lateral acceleration of chasing agent and capture region, for each of the guidance laws and **deduced** the most useful laws under the different **operational scenarios**

## **MATERIAL SELECTION FOR CONNECTING ROD OF ENGINE OF A PASSENGER CAR**

[Nov '09]

Guide: Prof. G. Prabhugaonkar, Department of Metallurgy and Material Science

- Analyzed the **fatigue** experienced by the connecting rod of the engine of a passenger car using simple mathematical models
- Prepared a report on composition and treatment of the alloy chosen to achieve desired requirements

## **CONCEPTUAL DESIGN OF GROUND WATER DETECTION SYSTEM**

[Aug-Nov '09]

Guide: Prof. Sudhakar, Department of Aerospace Engineering

- **Co-ordinated** in a group to **conceptualize** the **design** of a system to detect groundwater
- Analysed the entire process of design including study of operational scenarios, stakeholders, functional requirements, concept generation and cost analysis for the proposed system

## **PROGRAMMING OF A COMPUTER GAME – PAC MAN**

[Oct-Nov '09]

Guide: Prof. Abhiram Ranade, Department of Computer Science and Engineering

- Developed a **graphics based computer game** using **C++** in which the user is to maneuver through a maze collecting points as he traverses the maze, avoiding the enemy
- The enemy was given a certain amount of intelligence such that he could chase the user through the maze
- Designed such that each time the game generates a new and **unique maze**

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## **RELEVANT COURSES**

- Modeling of Dynamic Systems, Tactical Missile Guidance, Experimental and Measurement Lab
- Strength of Materials, Engineering Metallurgy, Engineering Design
- Computer Programming, Data Analysis and Interpretation, Industrial Engineering and Operations Research
- Digital Electronics, Electronic Devices, Electrical and Electronic Circuits

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## **SOFTWARE SKILLS**

- **Microcontrollers** : AVR and PIC families
- **Programming Languages**: C/C++
- **Packages**: MATLAB, Mathematica
- **Simulation Tools**: ANSYS, Solidworks, LABView, OptimumK
- **Operating Systems**: Windows, Linux

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## **POSITIONS OF RESPONSIBILITY**

- **Hostel Maintenance Secretary [2009-2010]**: Managed the maintenance related problems of the 400 hostel inmates
- **Co-ordinator [2009]** of an '**Informals**' event at **Mood Indigo** (Asia's largest cultural festival)
- **Organizer [2008]** of the **Parliamentary Debate** at **Mood Indigo**

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## **EXTRA-CURRICULAR ACTIVITIES**

- **Campus reporter** for **InSight**, IIT Bombay's fortnightly newspaper
- Enjoy **trekking** and **travelling**
- **Formula 1** and **Moto GP** enthusiast
- Member of the **winning team** in the **inter-hostel swimming** championship
- Attended a **15 day water-sports camp** in North India
- Enjoy **tennis** and **long distance cycling**

[Sept '09]

[May '09]



**Energy Systems Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Energy Systems Engineering**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 27/09/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.67
Intermediate/+2	MPBSE	Brilliant Public School, Vidisha	2008	86.00
Matriculation	CBSE	Vatsalya Sr. Sec. School, Vidisha	2006	86.67

### INTERNSHIPS

**Arhus School of Engineering, Denmark** (Research Internship) [Jun'11-Jul'11]  
*Modelling of Continental Scale Renewable Energy System*

- Developed a wind speed to wind power conversion tool using **python language** as the platform
- Mapped wind velocity** data and its power conversion with 6 minute time horizon for a year for whole world using characteristics of prominent wind turbines
- Conducted a thorough **survey of 34 commercial wind turbines**, learned their various features and characterized them for **regional recommendations**

**Cummins Engine Research Facility, IIT Bombay** [May'09-Jul'09]

- Analysed performance characteristics of diesel engine by collecting data for **30 test runs on bio-fuel**
- Examined the anomalies** in data to draw conclusions about the suitability of bio-fuel for diesel engine
- Audited the engine running on vegetable oil for 500 hours for wear and tear with **Cummins India Ltd (Pune)** and **recommended** decrease in maintenance intervals and change of lubricant every 400 hrs

### LEADERSHIP EXPERIENCE

**Student's Initiative Vision 2035, TIFAC, Dept. of Science and Technology, GoI** [Apr'12-Present]  
*TIFAC is an organization set up in 1988 under DST (GoI) to predict technologies in areas of national importance*

- Spearheading student's initiative** as part of 'Technology Vision 2035 program' to prepare a report to be made available to Govt. on energy technologies of India that our generation visualizes for year 2035
- Part of core team responsible for designing the framework to reach over 8000 youths via various media
- Administering** the 'wind energy group' to gather views of youth on wind energy technologies to be used in the future in India

*Highlight –Final deliverables will be a part of TIFAC VISION 2035 report, a basis for Indian policy making*

**General Secretary, Department of Energy Science and Engineering (DESE), IIT Bombay** [Aug'11-Jul'12]  
*Elected representative of over 400 students in various decision making committees of department*

- Initiated and conceptualized 'Helios'**, Annual Department festival of DESE, IIT Bombay
- Founded the 'Energy Club'** to generate awareness about the challenging and exacting issues of energy
  - Assembled a team of energy enthusiasts across the institute for successful organization of events
  - MUN**, its flagship event, got **international outreach** with participation from US, Europe and Pakistan
- Launched 'Wattsup?'**, annual student magazine of DESE, IIT Bombay
  - Showcased interviews of research pioneers such as **Dr. Michael Gratzel, father of dye solar cells**
  - Distributed over **1200 copies** to industry personnel as well as students across colleges in Mumbai
- Coordinated in organizing third chapters of **international conferences** ICAER'11 and Globaltech
- Led a team of 20 volunteers to organize **'Energy Day'**, a unique nexus between industry and academia

*Highlight – The Initiatives were covered in many leading national dailies in their inaugural year itself giving dept. a nationwide visibility*

**Overall Coordinator, Helios '12** [Aug'11-Mar'12]  
*First and only of its kind platform aiming at capturing attention of youth towards energy crisis*

- Spearheaded 3 tier team of **68 coordinators** for the conceptualization and execution of over **15 events**
- Allocated a budget of **INR 7 lakh**, gathering media coverage worth **INR 25 lakh** in DNA, HT and Maharashtra Times

## SELF INITIATED PROJECTS

### Understanding the Impact of Lifestyle on Carbon Footprint [Mar'11-Dec'11]

- Compiled a detailed report comparing average per-capita carbon footprint of rural, peri-urban and urban areas with similar socio-economic status to get the emission patterns in India
- **Interviewed** 150 households across various **socio-economic sectors** in rural, peri-urban and urban areas nearby Mumbai analyzing the relation between lifestyle practices and carbon footprint
- **Co-authored** a research paper with suggestions of an equitable distribution and reduction model  
*Highlight – Paper selected for presentation in Global Conference on Global Warming 2012, Istanbul, Turkey*

### GHG Inventory of IIT Bombay [Dec '10-Dec'11]

- Initiated project to develop a Green House Gas (GHG) inventory of IIT Bombay campus for the first time
- Gathered and compiled complete data on emission sources from authorities and campus-wide survey
- Developed a methodology for better understanding of the sources and trends in emissions
- Results indicated carbon footprint of institute to be 2.44 tonnes of CO<sub>2</sub>e per capita per year which is lesser than many universities across the world but much higher than Indian average

## KEY ACADEMIC PROJECT

### Wind Power Forecasting – Dual Degree Dissertation [Jan '12-Present]

*Designing a indigenous user-friendly software tool for wind velocity and wind power forecasting*

- Extensively surveyed the literature and performed a **comparative study** on various algorithms available for wind power forecasting, simultaneously learning their mathematics
- Currently working with various shortlisted algorithms and python language as platform to yield **region specific forecasts** for various time horizons
- Final tool is expected to **reduce the expenses** incurred by Indian wind industry in forecasting and hence revamping current wind scenario in India significantly

### Design of 20kW Gasifier – Design Project [Jan '12-Apr'12]

- Illustrated **engineering drawings** with optimized calculations for each part of the reactor using **AutoCAD**
- Devised a **new design** for ash handling unit to overcome the problems due to improper ash discharge

### Green Gym – Innovation Project [Jul'11-Nov '11]

- **Remodeled** a shoulder press gym equipment adapting rotational motion and storing energy using generator and a battery
- Achieved **45% reduction in cost** by incorporating cycle gear system as a substitute for weight plates

### Modeling of Continuous Stirred Tank Bioreactor – Mathematical Modeling project [Aug'11-Nov'11]

- Simulated the model in **MATLAB** to determine timely variation of bioreactor yield and compared the model results with experimental results to evaluate **10% maximum error**
- Designed Information flow diagram to find out optimum parameters for **maximum yield**

## EXTRA-CURRICULAR ACTIVITIES

### Sports

- **Manager and highest goal scorer** of team which won **silver medal** in Hostel 5 Football League [2011]
- Represented hostel in Hockey Sophomore, Football and Basketball General Championships [2009,10]

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- Developed academic content and taught over 50 underprivileged students in NGO '**Vidya**' [2008,09]
- Associated with **Group of Rural Activities (GRA)**, IIT Bombay [2008,09]

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**Energy Systems Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Energy Systems Engineering**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 23/10/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.40

#### INTERNSHIPS AND WORK EXPERIENCE

<b>Dover Corporation, Bangalore</b> May '11 – Jul '11	<ul style="list-style-type: none"> <li>Conducted <b>market research</b> on Fluid Film Bearings (FFBs) in Indian Industry and Power Sector</li> <li>Formulated <b>market entry strategy</b> for Waukesha Bearings, USA, suitable to their product portfolio</li> <li>Investigated demand, technical details, manufacturers, suppliers, pricing, supply chain of FFBs</li> <li>Visited <b>15 OEMs of power generation, oilfield machinery</b> in 9 cities and surveyed 20 others</li> <li>Segmented market by equipment manufactured, <b>procurement criteria</b> of OEMs and competition</li> <li>Quantified anticipated <b>total annual demand</b> across segments and developed a 5 year forecast</li> </ul>
<b>TheSportsCampus</b> Dec '09 – May '10	<ul style="list-style-type: none"> <li><b>Cricket journalist</b> for online sports news portal with <b>reader base in excess of 15 million</b></li> <li>Produced over <b>100 feature stories</b> in 6 months spanning across 16 international tournaments</li> <li>Provided real-time updates to users by <b>live venue coverage of IPL matches and Players' Auction</b></li> </ul>

#### POSITIONS OF RESPONSIBILITY

<b>Co-founder, Helios</b> Aug '11 – Mar'12	<ul style="list-style-type: none"> <li>Launched Energy Department technology festival to expand outreach in industry and academia</li> <li>Collaborated with 20 companies to conduct 16 national-level events in a 19 member team</li> <li>Conducted Green B-Plan competition with <b>INFUSE Capital, IIM Ahmedabad</b>; received 60 entries</li> <li>Established long-term <b>funding &amp; mentorship program for green energy start-ups</b> of IITB</li> <li>Secured media partnerships with <b>Hindustan Times, DNA</b> to generate space worth <b>INR 25 lakh</b></li> </ul>
<b>Founder &amp; Chief Editor, Wattsup?</b> Oct '11 – Mar'12	<ul style="list-style-type: none"> <li>Spearheaded <b>team of 16</b> to develop and publish <b>inaugural issue</b> of annual Department magazine</li> <li>Supervised circulation to <b>reader base of 1200</b> comprising industry personnel and students</li> <li>Interviewed research pioneers; initiated articles from alumni in industry; showcased research at IITB</li> </ul>
<b>Dept. Placement Coordinator</b> Jul '12 – present	<ul style="list-style-type: none"> <li>Part of 90 member team responsible for placing <b>1600 students</b> across over <b>500 companies</b></li> <li>Compiled student preferences, skills, achievements database to streamline company contacting</li> <li>Developed strategies to attract recruiters to Energy Dual Degree batch in <b>placements for first time</b></li> <li>Involved in policy formulation; conducted preparatory activities like tests, GDs, PIs, buddy talks</li> </ul>
<b>Internship Coordinator</b> Aug '09 – Apr '10	<ul style="list-style-type: none"> <li>Member of <b>founding team</b> of 22 of Practical Training Cell which placed <b>300 Students in 1st Year</b></li> <li>Coordinated with faculty for <b>energy sector internships</b>; started centralized university contacting</li> <li>Initiated contact with start-ups for internships, collaborating with Entrepreneurship Cell of IITB</li> </ul>

#### KEY ACADEMIC PROJECTS

<b>Master's Thesis</b> May '12 – present	<ul style="list-style-type: none"> <li>Designing central receiver of <b>30 MW solar power tower project</b> for <b>BHEL</b> in Andhra Pradesh</li> <li>Identified major operational issues of past solar central receiver projects through literature survey</li> <li>Working on the <b>critical problem of thermal transients</b> by adapting receiver's thermal inertia</li> <li>Simulating the fluid flow, heat transfer and convective losses in <b>ANSYS Fluent</b></li> </ul>
<b>Campus Transport Revamp</b> Aug '11 – Nov'11	<ul style="list-style-type: none"> <li>Proposed replacement of buses in campus with carriages <b>running by gravity</b> on inclined rail tracks</li> <li>System delivers <b>80% energy saving</b>, amounting to <b>60,000 kg of CNG annually</b> for IITB</li> <li>Funded <b>INR 65,000</b> for demonstration of prototype 15 m model that was reviewed by Dean R&amp;D</li> </ul>
<b>Marketing Strategy, Britannia</b> Sep '09 – Nov '09	<ul style="list-style-type: none"> <li>Analyzed marketing strategy of confectionary major Britannia based on SWOT, PESTLE analysis</li> <li>Reviewed market segmentation, marketing mix, supply chain, product positioning, pricing strategies</li> <li>Conceived <b>new product idea</b> for horizontal expansion and outlined detailed marketing strategy</li> </ul>

#### AWARDS AND OTHER ACHIEVEMENTS

<b>Academics</b>	<ul style="list-style-type: none"> <li>Awarded the prestigious <b>National Talent Search Scholarship</b> by the Govt. of India '06</li> <li>Ranked in the <b>top 1%</b> at the Indian National Physics Olympiad (INPhO) '07</li> </ul>
<b>Sports</b>	<ul style="list-style-type: none"> <li>Awarded <b>Hostel Colour</b> in 2011 and Special Mention in 2010 for exemplary contributions to Sports</li> <li>Steered hostel team to unprecedented <b>Silver Medal</b> as <b>Captain and top goal scorer</b> in Water Polo</li> <li>Participated in Swimmathon '09 (swimming marathon), covering <b>11.5 km in 7 hours &amp; 30 mins</b></li> </ul>



**Energy Systems Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Energy Systems Engineering**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 23/10/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.40
Intermediate/+2	Maharashtra State Board	D G Ruparel College	2008	91.17
Matriculation	Maharashtra State Board	IES's Manik Vidyamandir	2006	94.26

#### ACADEMIC ACHIEVEMENTS

- Awarded the prestigious **National Talent Search Scholarship** by Govt. of India (750 students nationwide) '06
- Ranked in the **top 1%** at Indian National Physics Olympiad (INPhO) '07
- Ranked **7th in Mumbai** division in Std. 10th board examinations with 94.26% '06
- Awarded the Middle School and High School Scholarship by the Govt. of Maharashtra

#### INTERNSHIPS AND WORK EXPERIENCE

##### Dover Corporation, Bangalore

May '11 – Jul '11

**Market Research** Study on Fluid Film Bearings in Indian Industry for Waukesha Bearings, USA  
(Waukesha Bearings is an operating company of Dover, a **Fortune 500** manufacturer of industrial equipment)

- Formulated detailed **market entry strategy** for Waukesha Bearings suitable for their product portfolio
- Investigated **demand** for FFBs in each market segment, their technical specifications, major manufacturers, overseas suppliers and their **pricing strategy & supply chain** through **primary research**
- Visited 15 leading OEMs** in 9 cities across India and surveyed 20 other OEMs of power generation, oil & gas field machinery like steam turbines, industrial gearboxes, pumps, compressors, major consumers of FFBs
- Segmented market by type of equipment, **procurement criteria**; quantified **market demand** for next 5 years

##### Heat Pump Laboratory, IIT Bombay

May '09 – Jul '09

Design of **Wankel-type Rotating Piston Pump** to Circulate Refrigerant in Air Conditioning Systems

- Reviewed Wankel engines, rotary pump designs to formulate equations governing rotor and housing geometry
- Simulated rotary pump in **MathCad** to predict variations in volumes & pressures of the 3 internal chambers
- Optimized pump efficiency and analyzed leakages from the chambers, volume flow rates

#### KEY ACADEMIC PROJECTS

##### Study of Receiver for Solar Central Power Tower | Master's Thesis

May '12 – ongoing

Design of central receiver of up to **30 MW capacity for heliostat field tower** of **BHEL** in Andhra Pradesh

- Identified major operational issues of past solar central receiver projects through extensive literature survey
- Working on the **critical problem of thermal transients** by adapting receiver's thermal inertia
- Simulating the fluid flow, heat transfer and convective losses in **ANSYS Fluent**

##### Design and Modelling of Eccentric Cam Pump

Jan '12 – Apr '12

Pump Design for Solar Thermal Rankine Cycle with Minimized Parasitic Energy Consumption

- Surveyed various pump designs to select most suitable to pump saturated water at 180°C from 10 to 12 bar
- Optimized dimensions of pump in **MathCad** for constant flow rate to maximize volumetric efficiency
- Developed a **CAD model** of all pump components in **SolidWorks** and selected appropriate materials and processes to manufacture; model currently sent for **prototyping** and subsequent testing

##### Mathematical Modelling of Distributed LED-based Lighting System

Aug '11 – Nov '11

- Proposed novel lighting system of LED array distributed across ceiling to replace conventional light sources
- Developed **MATLAB** model to optimize LED distribution using room geometry, lux levels, LED details
- Compared installation cost, operating cost and energy savings with other light sources for same illuminance

##### Solar Thermal Technologies for Refrigeration and Air Conditioning

Jan '12 – Apr '12

- Surveyed literature on experimental studies and results; compared performances of various cycles, working pairs
- Compared various solar refrigeration techniques on cost basis for constant cooling load

## Campus Transport System Revamp

Aug '11 – Nov '11

- Proposed a unique transport system for IIT Bombay comprising carriages running **by gravity** on inclined rail tracks elevated above roads, delivering **80% energy savings over buses (60,000 kg of CNG annually)**
- Simulated a traffic management system in **MATLAB**, optimizing track slopes by actual distances
- Funded **INR 65,000** for demonstration of prototype 15 m long model that was reviewed by the Dean R&D

## Energy Audit of Hostels at IIT Bombay

Feb '12 – Apr '12

- Prepared a comparative study between hostels on monthly and per capita basis of energy consumption
- Proposed a solar water heating system to replace geysers, delivering estimated annual saving of **INR 65 lakh**

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## POSITIONS OF RESPONSIBILITY

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### Co-founder, Helios

Aug '11 – Mar '12

Annual **Technology Festival** of Energy Science and Engineering Department, IIT Bombay

- **Launched a nationwide platform to increase awareness about global energy issues**; collaborated with 20 companies to expand Institute outreach and Department relations among industry and academia
- Conceptualized and executed 16 national-level events on energy sector and technology in a team of 19
- Established a long-term **funding & mentorship program** for green energy start-ups from IIT Bombay with **INFUSE Capital, IIM Ahmedabad**; conducted Green B-Plan competition with over **60 entries** received
- Secured media partnerships with **Hindustan Times, DNA** generating print space worth **INR 25 lakh**

### Founder and Chief Editor, Wattsup?

Oct '11 – Mar '12

Annual Energy Science **Student Magazine**, IIT Bombay

- Spearheaded a team of **12 writers and 4 designers** to develop, publish and distribute the magazine to a **reader base of 1200** comprising accomplished industry personnel and college students
- Interviewed research pioneers such as Prof. Michael Grätzel, winner of the Millennium Technology Prize
- Initiated alumni articles to present industry scenario to students; showcased ongoing energy research at IITB

### Department Placement Coordinator, Institute Placement Team

Jul '12 – present

Part of 90 member team responsible for placing **1600 students** across over **500 companies**

- Compiled a student preferences, skillsets and achievements database to streamline company contacting
- Developed **sectorwise strategies** to attract recruiters to Energy Dual Degree batch in placements **for first time**
- Actively involved in formulation of policies; liaising with students, companies and placement body
- Conducted preparatory activities including aptitude, technical tests, GD and PI sessions, alumni buddy talks

### Internship Coordinator, Practical Training Cell

Aug '09 – Apr '10

Member of **Founding Team** of 22 of the Practical Training Cell which placed **300 Students in its First Year**

- Coordinated with faculty for **energy sector internships**; started centralized university contacting
- Contributed in the development of the institute's **first ever** Practical Training Policy
- **Initiated contact with start-ups** for internships, collaborating with Entrepreneurship Cell of IIT Bombay

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## EXTRA-CURRICULAR ACTIVITIES

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### Journalism

- **Cricket Journalist** for TheSportsCampus, online sports news portal with **reader base exceeding 15 million**
- Produced over **100 feature stories** spanning across **16** international tournaments, from Dec '09 to May '10
- Provided real-time updates to followers by **live venue coverage of IPL matches and Players' Auction**

### Sports

- Awarded **Hostel Color** in 2011 and Special Mention in 2010 for exemplary contributions towards Sports
- Steered the hostel team to an unprecedented **Silver Medal** as **Captain** and **top goal scorer** in Water Polo
- Participated in Swimmathon '09 (swimming marathon), covering **11.5 km in 7 hours & 30 mins**
- Represented the hostel in swimming, football, cricket championships and cross country running

### Technical

- Fabricated an electronic circuit to work as an **electric switch** operated by **infrared remote and cellphone**
- Constructed a **solar desert-type air cooler** powered by a 10W peak solar photovoltaic module
- Reached Finals of Nexus, the **solar powered robot** racing competition at Techfest '09





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- Visited 15 leading OEMs** in 9 cities across India and surveyed 20 other OEMs of power generation, oil & gas field machinery like steam turbines, industrial gearboxes, pumps, compressors, major consumers of FFBs
- Segmented the diverse market according to types of equipment manufactured, **bearings procurement criteria** of OEMs and competition from other bearings suppliers
- Quantified anticipated **total annual demand** across all market segments; developed a 5 year forecast

##### TheSportsCampus.com

Dec '09 – May '10

**Cricket Journalist** for online sports news portal with **reader base in excess of 15 million**

- Produced over **100 feature stories in 6 months** spanning across 16 major international tournaments
- Provided real-time updates to followers by **live venue coverage of IPL matches and Players' Auction**

#### POSITIONS OF RESPONSIBILITY

##### Co-founder, Helios

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- Conducted a **Green B-Plan** competition with **60 entries** received; raised sponsorship of **INR 1.5lakh**
- Secured media partnerships with **Hindustan Times, DNA** generating print space worth **INR 25lakh**
- Designed and implemented the online publicity campaign, leading to participation of over 100 users in online events and viral outreach to about 12000 users

##### Founder and Chief Editor, Wattsup?

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Aug '09 – Apr '10

Member of **Founding Team** of 22 of the Practical Training Cell which placed **300 Students in its First Year**

- Coordinated with faculty to open up internship opportunities in the **energy sector**
- Created database of universities undertaking energy research and contacted them centrally for first time
- Contributed in the development of the institute's **first ever** Practical Training Policy
- **Initiated contact with start-ups** for internships, collaborating with Entrepreneurship Cell of IIT Bombay

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## KEY ACADEMIC PROJECTS

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- Simulated a traffic management system in **MATLAB**, optimizing track slopes by actual distances
- Funded **INR 65,000** for demonstration of prototype 15 m long model that was reviewed by the Dean R&D

### Opportunity-centred Entrepreneurship in Healthcare Sector

Aug '11 – Nov '11

- Proposed 8 novel business ideas on integrating technological and IT sector advancements with healthcare market needs and ongoing research, and analyzed their commercial potential in Indian market
- Developed a detailed business plan for a **Centralized Online Medical Records Database**

### Strategy for Marketing and Product Development – Britannia

Sep '09 – Nov '09

- Analyzed the marketing strategy of confectionary major Britannia based on SWOT and PESTLE analysis, market segmentation, marketing mix, product positioning and pricing
- Conceived a **new product idea** for horizontal expansion and outlined a detailed marketing strategy

### Project Planning and Execution – Bombay High Oilfield

Aug '12 – present

- Studying project planning aspects of execution, scheduling, budget, work breakdown structure, resource and geo-environmental constraints, environmental impact of the Bombay High oilfield development project

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## EXTRA-CURRICULAR ACTIVITIES

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- Reached Finals of Nexus, the **solar powered robot racing** competition at Techfest '09

### Miscellaneous

- **Coordinator, Marketing, Mood Indigo '09** - Worked as liaison with sponsors McDonalds, Barista Lavazza, Chings and led a team of 15 organizers to handle their on-campus branding
- Travel enthusiast; have travelled to **13 countries on 4 continents** and 11 states across India





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Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.05
Intermediate/+2	CBSE	Saint Soldiers School	2007	81.60
Matriculation	CBSE	Maheshwari Public School	2005	89.20

#### INTERNSHIPS

##### RESEARCH INTERN - AARHUS SCHOOL OF ENGINEERING, DENMARK

(Jun'11 - Jul'11)

##### *Modeling of Continental Scale Renewable Energy System*

- Developed a unique decision making tool to optimize selection of solar and wind energy technology for a given geographical location
- Critically analyzed the effect and associated interplay of meteorological factors such as solar radiation, temperature and wind speed on solar power potential
- Formulated a python based tool to forecast climate pattern for solar potential estimation
- Geographically classified more than **20 Photovoltaic panels** for locations around the world optimizing cost and efficiency

##### ANALYST TRAINEE - CMC LTD. (TATA CONSULTANCY SERVICES), MUMBAI

(May'10 - Jul'10)

##### *Green Data Centers (GDC)*

- Team member for the Green IT initiative working towards transforming TCS data centers into GDCs
- Intensive market research on cloud computing, implementation of clean energy and alternative cooling technologies
- Summarized the key learnings based on the review of around **20 industrial case studies**
- Proposed design changes based on the best fit technology with a detailed action plan for execution
- Recommendations adopted by data center(in Pune) - resulting in **20% reduction** in carbonfootprint

#### POSITIONS OF RESPONSIBILITY

##### CO-FOUNDER AND MARKETING MANAGER - HELIOS

(Aug '11 - Mar'12)

##### *Initiated, planned and executed **Helios'12**, annual festival of department of Energy Science & Engineering*

- Envisioned the fest along the lines of generating innovative ideas on pressing energy crisis in industries
- Led a **3-tier team of 20** students to raise corporate funds in excess of **INR 7 lakh** and garner media coverage in excess of **INR 25 lakh**
- Pioneered event oriented marketing to establish synergic partnerships; GreenBiz sponsored by **IIM-Ahmedabad's Incubator Cell** to provide funding to budding entrepreneurs
- Conceptualized and formulated the problem statements for 6 competitions with prize money in excess of INR 1.5 lakh and 3 workshops with over 150 participants
- Managed the on ground publicity campaign and effectively represented the interest of **16 sponsors** in front of footfall in excess of **500 students**

##### INTERNSHIP COORDINATOR (IC) - ENERGY SCIENCE AND ENGINEERING

(May'10 - Apr'11)

##### *Part of a team of 24 IC's of the **Practical Training (PT) Cell** representing 1500 students*

- Formulated the initial framework to set the vision and objectives of PT Cell
- Established a transparent internship policy with student feedback, ensuring maximum participation
- Efficiently mapped student profiles to company requirements opening up new sectors for internships
- Established association with **8 new universities** and initiated talks with over **200 technical firms**
- Collaborated with 'Student Alumni Relations Cell' and 'Entrepreneurship Cell' for internship opportunities revamping the company and university contact database
- Instrumental in securing internships for **85% students** of the first Energy Engg. batch with int'l universities and prestigious firms

## CO-FOUNDER - ENERGY CLUB

(Aug'11 - Apr'12)

*Focused on generating awareness about the challenging issues of energy crisis*

- Mentored a team of 2 managers and 3 conveners for successful organization of events
- Marquee event, Model United Nations, of the club received participation from US, Germany and Pakistan; featured in national dailies **DNA and Hindustan Times**

## COORDINATOR, MARKETING TEAM - MOOD INDIGO (MI)'09

(May'09 - Jan'10)

- Instrumental in finalizing the first animation partner leading to **first ever** virtual ad campaign for MI
- Spearheaded a team of 15 organizers for on-campus advertising campaign of 7 companies spreading across the whole campus area

## RESEARCH EXPERIENCE

### CTARA, IITBOMBAY - IMPACT OF LIFESTYLE ON CARBON FOOTPRINT

(Mar'11 - Dec'11)

*Selected for presenting in the Global Conference on Global Warming, 2012 in Istanbul*

- Compiled an exhaustive list of equivalent carbon footprint factors for **25 sources of GHG** emissions
- Interviewed **150 households** across various socio-economic sectors to analyze the relation between lifestyle practices and carbon footprint
- Mapped emission patterns for Mumbai by performing statistically detailed comparison of per capita carbon footprint data of urban, semi-urban and rural areas

### DUAL DEGREE DISSERTATION- WELL TO WHEELS ANALYSIS OF SOLAR HYDROGEN SYSTEM (May'12 - Present)

*Life Cycle Assessment of a Solar Hydrogen Production using Solar Photovoltaic (PV) via electrolysis*

- Experimentally investigated the energy consumption in production of PV modules at **TataBP Solar**
- Examined data to project factors such as Cumulative Energy Demand and GHG emissions in production of PV cells, Energy Return on Energy Invested, and Revenue returns

## KEY ACADEMIC PROJECTS

### DESIGN PROJECT - TEST FACILITY FOR A HEAT COLLECTOR ELEMENT (SOLAR COLLECTORS)

(Jan'12 - Apr'12)

- Designed an **industry standard** indoor test facility for projecting the heat loss of HCEs
- Balanced materials v/s cost to achieve higher long term performance of the facility
- Illustrated engineering drawings for each part using **AutoCAD** by performing optimized heat, stress and strain calculations

### ENERGY INNOVATION PROJECT - GREEN GYM

(Jul'11 - Nov'11)

- Remodeled a shoulder press gym equipment adapting rotational motion and storing energy using generator and a battery
- Achieved **45% reduction in cost** by incorporating cycle gear system as a substitute for weightplates

## EXTRACURRICULAR ACTIVITIES

### SOCIAL

#### CAMPUS LEADER - EKJAA

(Dec'11 - Jan'12)

*A volunteer powered social venture providing financial assistance to local NGOs*

- ✓ Conceived and spearheaded the first Campus Leader program to promote research on social projects
- ✓ Mentored and monitored **30 undergraduate interns** ensuring constructive and viable outcomes
- Conducted survey in **20 households** in Vihigaon village on basic facilities as a Group of Rural Activities volunteer; recommended off grid solutions to improve the standard of living ('08)
- Volunteered in Leprosy Eradication Drive; "Khoon Chala", Blood Donation Campaign ('08)
- Taught underprivileged children in Kendriya Vidyalaya as a National Social Service volunteer ('08)

### OTHER

- Served as **Department Cultural Secretary**; coordinated in International Conference and Exhibition for Advanced Energy Research; organized Teacher's Day, Kurta Day (May'09 - Apr'10)
- Part of dramatics team of hostel in Performing Arts Festival – awarded **2<sup>nd</sup> prize** ('09)
- Lead actor in 'History Repeats', a play staged at the Annual Theatre Festival, IIT Bombay ('10)
- Represented hostel in cricket in General Championship – **2<sup>nd</sup> among 13 hostels** ('10)



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Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.29
Intermediate/+2	CBSE	Central Academy	2008	85.60
Matriculation	SSC	Golden kids	2006	86.53

### INDUSTRIAL EXPERIENCE

#### TCS, COMPLEX DECISION SUPPORT GROUP, MUMBAI

May '11 – Jul '11

*Performance Analysis of a US based Retail Chain*

- Carried out a two-stage **Data Envelopment Analysis** to calculate relative efficiencies for b-to-b comparison:
  - Gauged performance of **900+ retail outlets** to identify bottlenecks in relative efficiency
  - Evaluated efficiencies of **35 product ranges** of various outlets; determined their target sales and transactions
- Formulated a **mathematical model** to optimize space allocation for various product ranges based on the principle of network DEA; model documented and implemented for Global Retail Clients of TCS

#### CUMMINS ENGINE RESEARCH FACILITY, IIT BOMBAY

May '09 – Jul '09

*Study of Diesel Engine running Karanj Oil as alternative fuel*

- Analyzed performance characteristics of diesel engine by collecting data for **30 test runs** on bio-fuel
- Calculated the Friction Power, Indicated Power, Mechanical Efficiency using **Willian's Line Analysis**
- Audited the engine running on vegetable oil for 500 hours for wear and tears **with Cummins India Ltd(Pune)**
- Examined the anomalies in data to draw conclusions about the suitability of bio-fuel for diesel engine
- Recommended** decrease in maintenance interval and change of lubricant every 400 hrs

### KEY ACADEMIC PROJECTS

#### DEVELOPMENT OF DUAL FUEL ENGINES| *Master's Thesis*

Jul '12 – Present

- Developed a **model** to characterize Hydrogen enhanced Bio Gas - an alternative fuel for IC Engines
- Established impact of fuel on engine parameters: efficiency, exhaust emissions, power output, knocking, component health by using model and experimentation
- Designed a mixer for air and biogas in **ANSYS Fluent** to ensure homogenous mixing of air and biogas before injecting it into the combustion chamber
- Optimized dimensions of Mixer in **MATLAB** to uniformly atomize the gaseous fuel for effective combustion
- Results to be used towards development of generator sets for rural markets by **Cummins Inc.**

#### DESIGN AND MODELING OF CHARCOAL PYROLYSER FOR RURAL APPLICATION

Jan '12 – Apr '12

- Studied the existing batch-wise production process of pyrolysis of wood into charcoal; **redesigned** the Charcoal Pyrolyser unit to implement continuous stream-lined production instead
- Optimized dimensions of the Pyrolyser unit by performing **stress-strain analysis** on every component
- Prepared the detailed Engineering Design of every part of the new unit in **AutoCAD**
- Proposed design reduces the time required for the pyrolysis of 100 kg wood by **30%**
- Currently a prototype is fabricated and subsequent tests are being performed in the **Biomass Laboratory** of Energy Department, IIT Bombay; also used for pyrolysis of cotton sticks, corn cobs

#### MATHEMATICAL MODELING OF DIESEL ENGINE

Jul '11 – Nov '11

- Analyzed and studied different types of mathematical models for various processes like combustion, transmission involved in IC engine systems
- Developed a model in **MATLAB** to calculate performance parameters of engine like torque, pressure, brake power in three phases – Kinematic, Thermodynamic and Dynamic Analysis
- Verified results by determining the values of these parameters using Willan's line analysis

#### ENERGY DEMAND SIDE MANAGEMENT FOR IIT BOMBAY CAMPUS

Jan '12 – Apr '12

- Comprehensively surveyed the literature on various techniques of energy demand side management
- Analyzed monthly and per capita basis of energy consumption, including electricity, LPG consumption and waste generation for various residential, administrative and recreational buildings
- Proposed various DSM techniques in order to reduce the dependence of non-renewable energies

## CAMPUS TRANSPORT SYSTEM REVAMP

Jul '11 – Nov '11

- Proposed a unique transport system for IIT Bombay comprising carriages running on gravity using inclined rail tracks elevated above roads, delivering **80%** energy savings over buses (**60,000 kg** of CNG annually)
- Simulated **traffic management** system for IITB campus in **MATLAB** to optimize slopes by actual distances
- Funded **INR 65,000** for demonstration of 15m prototype system which was reviewed by **Dean R&D, IITB**
- Successfully fabricated and demonstrated a **working prototype** 15m long track and two-seater cart (with pedals and brakes for speed control and lift and turning mechanism)

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## POSITIONS OF RESPONSIBILITY

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**MANAGER, INFRASTRUCTURE, TECHFEST** | Footfall: 85,000 Budget: INR 1.32 crore

Mar '10 – Jan '11

*Part of a 22 member team responsible for conceptualizing Asia's Largest Science and Technology Festival*

- Led a 2-tier team of **90 volunteers** to plan and manage the logistics of **120 events** spread over 20 venues
- Secured company deals worth **INR 52 lakh**; saved **20%** of allotted budget through aggressive negotiations
- Strategized and planned the installation of Exhibitions over **24,000 sq. ft.** to house **50,000 attendees**
- Initiated 'Inter IIT Energy Saving Championship' in 5 IITs; generated savings worth **INR 12.6 lakh**
- Pioneered 'India Unmute', a campaign to gather ideas of future India; received **5,000** ideas from 40 cities
- Facilitated the diffusion of ongoing R&D at IITB and provided a research assistance platform for Grass Root Innovations, in association with DST, NIF and IIMA by staging a comprehensive research exposition

## CO-FOUNDER, HELIOS

Aug '11 – Mar '12

*Annual Technological Festival of Energy Department; first ever student initiative of Energy Department*

- Launched a **national level platform** to expand outreach of the Department among industry and academia
- Meticulously managed and allocated a budget of **INR 7 lakh**
- Introduced a **central online system** to manage all expenses resulting in greater transparency
- Conceptualized **16 flagship events** with a 6 member Events team; received participation from 500 students

## COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM

May '12 – Present

*Working in team of 90 members to manage campus recruitment of 1600+ students from 26 departments*

- Established relationships with **90+ potential recruiters**; confirmed participation of **15 companies** till now
- Explored international job opportunities & initiated **sector specific strategies** to increase corporate participation

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## OTHER ACTIVITIES

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### INTELLECTUAL PROPERTY RIGHTS

- Successfully completed 6 weeks **Certification Course** from SJM School of Management, IIT Bombay
- Developed an understanding of legal elements of **intellectual property**, such as trademarks, patents, copyrights and trade-secrets through structured case studies
- Analyzed mechanisms for protection of intellectual property including procedures for filling **patent and copyrights** applications; drafted a sample patent

### TECHNICAL ACTIVITIES

- Constructed **Solar-Powered Air Cooler** using household materials like aluminum rods, earthen pot inspired by the concept of heat exchange taking place in the condenser
- Designed and prepared a **IR Remote & Mobile Phone** controlled master switch circuit for operating household electronic appliances; helps to operate appliances when one is away from home
- Competed Solar Robotics Challenge in **Nexus**, a national level event of **Techfest '09** involving construction and racing of a photoroller (Solar PowerCar)
- Ranked **6<sup>th</sup> out of the 70** teams in Freshmen Wireless Racing Car '08 competition at IIT B

### HOSTEL - ORGANIZATIONAL ACTIVITIES

- **Chief Election Officer**: Successfully conducted 2 terms of elections for the hostel council of 25 members
- **Production In-charge** (PAF '11): Led a production team of 60 volunteers; won **Best Production Trophy** of Performing Arts Festival '11, IITB's largest cultural event; secured **2<sup>nd</sup> Position** overall
- Awarded **Special Mention & Color** for imperative contribution in PAF '10 & '11 respectively

### SPORTS ACTIVITIES

- **Captain** of hostel Water Polo team in 2011; steered team to win **Silver Medal** for the first time in last 5 years
- Participated in Swimmathon '09 and swam continuously for **4 hours, covering 7 km**



**Energy Systems Engineering**  
**Indian Institute of Technology Bombay**  
**Specialization: Energy Systems Engineering**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 29/04/1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.29

### LEADERSHIP ROLES

**MANAGER, INFRASTRUCTURE, TECHFEST** | Footfall: 85,000 Budget: INR 1.32 crore Mar '10 – Jan '11  
*Part of a 22 member team responsible for the conceptualization of Asia's Largest Science and Technology Festival*

- Led a 2-tier team of **90 volunteers** to plan and manage the logistics of **120 events** held across 20 venues
- Secured company deals worth **INR 52 lakh**; saved **20%** of allotted budget through aggressive negotiations
- Strategized and planned the installation of Exhibitions over **24,000 sq. ft.** to house **50,000 attendees** over 3 days
- Organized Techconnect showcasing **80 IITB R&D Projects**, visited by eminent members from the industry
- Initiated 'Inter IIT Energy Saving Championship' in 5 IITs; generated savings worth **INR 12.6 lakh**
- Pioneered 'India Unmute', a campaign to gather ideas of future India; received **5,000 ideas** from 40 cities

**CO-FOUNDER, HELIOS** Aug '11 – Mar '12

*Annual Technological Festival of Energy Department; first ever student initiative of Energy Department*

- Launched a **national level platform** to expand outreach of Energy Department among industry and academia
- Meticulously managed and allocated a budget of **INR 7 lakh**
- Introduced a **central online system** to manage all expenses resulting in greater transparency
- Conceptualized **16 flagship events** with an Events team of 6 members; received participation from 500 students
- Collaborated with **15 companies** & associated with HT, Maharashtra Times for media publicity worth **INR 25 lakh**

**COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM** May '12 – Present

*Working in a team of 90 members to manage campus recruitment of 1600+ students from 26 departments*

- Initiated talks with over 90 Indian and overseas companies; confirmed participation of **15 companies** hitherto
- Explored international job opportunities & initiated **sector specific strategies** to increase corporate participation

### INDUSTRIAL EXPERIENCE

**TCS, COMPLEX DECISION SUPPORT GROUP** | *Performance Analysis of US based Retail Chain* May '11 – Jul '11

- Carried out a two-stage **Data Envelopment Analysis** to calculate **relative efficiencies** for b-to-b comparison:
  - Gauged performance of **900+** retail outlets to identify bottlenecks in relative efficiency
  - Evaluated efficiencies of **35 product ranges** of various outlets; determined their target sales and transactions
- Formulated a **model** to optimize **space allocation** for various product ranges based on the principle of network DEA
- Model documented and implemented for Global Retail Clients of TCS

**AXIENCE CONSULTING** | *Secondary Market Research of Electrical Installation Materials* Mar '12 – Apr '12

- Worked in a 10 member **Consulting and Business Research** team for a European conglomerate
- Analyzed market opportunities for the **supply chain** of electrical installation material across **6 countries**
- Identified & prepared brief profiles of **200** potential suppliers and distributors; **received Letter of Recommendation**

### KEY ACADEMIC PROJECTS

**DEVELOPMENT OF DUAL FUEL IC ENGINES** | *Master's Thesis* Jul '12 – Present

- Developed a **mathematical model** to characterize hydrogen enhanced biogas – an alternative fuel for IC engines
- Designing a mixer for air and biogas in **ANSYS Fluent** to ensure homogenous mixing before injection
- Results to be used towards development of generator sets for rural markets by **Cummins Inc.**

**MATHEMATICAL MODELING OF DIESEL ENGINE** Jul '11 – Nov '11

- Analyzed and studied various **mathematical models** for processes like combustion, transmission, etc. in Engines
- Developed a model in **MATLAB** to calculate performance parameters like torque, pressure & brake power
- Verified the model by experimentally determining the values of these parameters using **Willan's line analysis**

### EXTRA- CURRICULAR ACTIVITIES

**HOSTEL MESS SECRETARY**  
 Aug '09 – Apr '10

- Played a key role in mess privatization leading to a quantum jump in food quality
- Negotiated **80% share** on guest food charges; resulted in additional **INR 1 Lakh profit**
- Awarded **Special Mention** for the exemplary functioning of the mess

**PERFORMING ARTS FESTIVAL '10 & '11**

- Production In-charge (PAF '11): Won **Best Production Trophy**; secured **2<sup>nd</sup> Position** overall
- Awarded **Special Mention & Color** for imperative contribution in PAF '10 & '11 respectively

**WATER POLO GC '11** • **Captain** of Hostel Water Polo team; won **Silver Medal** for the first time in the last 5 years



Energy Systems Engineering  
Indian Institute of Technology Bombay  
Specialization: Energy Systems Engineering

Dual Degree (B.Tech+M.Tech.)  
Male  
DOB: 16/08/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	7.10

### SCHOLASTIC ACHIEVEMENTS

- All India Rank **303** in National Level Science Talent Search Examination 2006
- Achieved a State rank of **225** in All India Engineering Entrance Examination 2008

### SUMMER INTERNSHIP

#### AGGREGATE INDUSTRIAL ENERGY USE IN THE WORLD: AN ANALYSIS OF TRENDS

May - Jul '09

GUIDE: PROF. RANGAN BANARJEE, DEAN R&D, IIT BOMBAY

- Consolidated **IEA** and **GEA** database for global industrial energy and primary resource usage
- Performed **region wise analysis** of various factors affecting **industrial energy** consumption
- Correlated energy usage** with population and level of development in various zones
- Identified **past trends**, built basis to **construct future scenarios**

### ACADEMIC PROJECTS

#### CHEAP TRANSPARENT CONDUCTORS

Mar '12 - present

MASTERS DISSERTATION (GUIDE: PROF. BALASUBRAMANIAM KAVAIPATTI)

- Presented a **seminar** on transparent conductors and implications of finding **cheaper alternatives**
- Currently examining Aluminum doped Zinc Oxide (**AZO**) and its viability as replacement for popular and expensive Tin doped Indium Oxide (**ITO**) to **reduce the cost** of **Thin Solar PV technologies**

#### INTELLIGENT POWER MANAGEMENT SYSTEM – *iSw!tch*

Jan - Apr '10

- Conceptualized and designed **simple** yet **scalable** logic circuit for managing indoor power utilities
- Automatically** and **selectively switches** indoor utilities with number of people present in room
- Fabricated a prototype in just **INR 500** and **validated** the concept for a small classroom

#### PORTABLE SOLAR INSOLATION MEASURER

Jul - Nov '11

- Developed an **inexpensive** alternative to dual Pyranometer setup used for Insolation measurement
- Streamlined features for **user friendly** operation, which include **simple UI** and **One-touch operation**
- Achieved **95% accuracy** in **less than one-tenth the cost** of a standard scientific Pyranometer

#### LAB SCALE CHUTE SETUP

Jan - Apr '11

- Designed a **lab scale chute** system for conducting particle flow experiments
- Modeled** the system in AutoCAD using the data **validated** by mathematical system simulation
- Created a set of **Engineering Blueprints** for the system fabrication

### EXTRACURRICULAR ACTIVITIES

#### JAPANESE LANGUAGE course by KOO INTERNATIONAL CO., LTD., TOKYO

Aug '11 - present

- Completed **100-hour** basic level course with **Top** grade and currently pursuing **intermediate** level
- Learnt **particles, verb forms, adjective forms, sentence patterns** and calligraphy of basic **Kanji**

#### THIRD PERSON ADVENTURE GAME

Jul - Nov '11

- Created a third person **survival themed adventure** game with an **intellectual spin** using Unity engine
- Crafted **unique** gameplay elements and puzzles to illustrate **renewable energy** concepts to player
- Worked on **Textures, Models, Game** design and **Level** design using Photoshop and 3ds Max
- Pre-baked shadows in textures to **optimize** performance by texture swapping of multiple sets

#### MISCELLANEOUS

- Trained in western classical **Violin** • Avid **reader** • Qualified in Nexus – **solar powered car** competition in TECHFEST 2009 • Enjoy playing **Strategic** and role playing games • Passionately follow **tech blogs** and professional e-sports • worked with **C++** and **Python** • Used **3ds Max, Maya, Photoshop, SketchUp**





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Indian Institute of Technology Bombay  
Specialization: Energy Systems Engineering

Dual Degree (B.Tech+M.Tech.)  
Male  
DOB: 16/08/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	7.10
Intermediate/+2	State Board, A.P.	Prathibha Junior College	2007	78.20
Matriculation	State Board, A.P.	Vikas High School	2005	90.50

#### SCHOLASTIC ACHIEVEMENTS

- All India Rank **303** in National Level Science Talent Search Examination 2006
- Achieved a State rank of **225** in All India Engineering Entrance Examination 2008

#### SUMMER INTERNSHIP

##### AGGREGATE INDUSTRIAL ENERGY USE IN THE WORLD: AN ANALYSIS OF TRENDS [May-Jul' 09]

GUIDE: PROF. RANGAN BANARJEE, DEAN R&D, IIT BOMBAY

- Consolidated **IEA** and **GEA** data for global industrial energy and resource usage
- Performed **region wise analysis** of various factors affecting energy consumption
- Correlated the energy usage** with population for various regions of the world
- Identified trends built basis to **predict future scenarios**

#### ACADEMIC PROJECTS

##### CHEAP TRANSPARENT CONDUCTORS – MASTERS DISSERTATION [Mar'12-present]

GUIDE: PROF. BALASUBRAMANIAM KAVAIPATTI

- Presented a **seminar** on transparent conductors and identifying **alternatives** also conveyed the impact **cheaper** alternatives can have on current electronics **market**
- Currently examining Aluminum doped Zinc Oxide (**AZO**) and its **viability** as replacement for popular and expensive Tin doped Indium Oxide (**ITO**) to **reduce** the **cost** of Solar PV tech

##### INTELLIGENT POWER MANAGEMENT SYSTEM - iSw!tch (Prof. Rajesh Gupta) [Jan-Apr'10]

- Conceptualized a **simple** yet **scalable** logic circuit for indoor power management
- Automatically switches** indoor utilities with number of people present in room
- Optimized the logic** to achieve maximum **power savings**
- Fabricated a prototype in just **INR 500** and **validated** the concept for a small classroom

##### SOLAR INSOLATION MEASURER (Prof. Chetan Singh Solanki) [Jul-Nov'11]

- Developed an **inexpensive alternative** to dual Pyranometer setup
- Innovative design** allows to measure both **Direct** and **Indirect** insolation with single device
- Streamlined features for **user friendly** operation, such as **simple UI** and **One-touch** use
- Achieved 95% accuracy in less than one-tenth the cost of a standard scientific Pyranometer

##### LAB SCALE CHUTE SETUP (Prof. Manaswita Bose) [Jan-Apr'12]

- Designed a **lab scale chute** system for conducting particle flow experiments
- Simulated** the particle flow to evaluate system parameters
- Modeled** the system in AutoCAD using the data **validated** by mathematical simulation
- Created a set of **Engineering Blueprints** for the system fabrication



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**MECHANICAL ANALYSIS OF A VERTICAL AXIS WIND TURBINE** (Prof. S B Kedare) *[Jul-Nov'10]*

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- **Modeled** a small scale vertical axis **wind turbine** for urban usage
- **Computed** the effect various mechanical parameters like **shear** stress, **bending** moment and **tensile** stress on critical system components
- **Optimized** dimensions and materials for **urban weather conditions**

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**SOLAR ENERGY MEASUREMENT PROGRAM** *[Jul-Nov'08]*

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- **Simulated** incident solar **insolation** on buildings of a city plan using **C++**
- Used **Sprite** library for **UI** and **visualization** of insolation through a solar day
- **Plotted** solar power variation with time for each building considering **critical factors** viz. location, dimensions and shadow effects of other buildings

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**SOLAR POWERED LI-BATTERY CHARGING SYSTEM** (Prof. Rangan Banarjee) *[Jan-Apr'09]*

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- Designed a **matchbox sized** system to convert DC (up to 25V) to 4.3V for Li-ion charging
- Integrated the circuit with solar PV panel and battery to create an **off-grid charging station**
- Some features include **multiple device** charging and battery **overcharge protection**

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**EXTRACURRICULAR ACTIVITIES**

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**JAPANESE LANGUAGE** course by **KOO INTERNATIONAL CO., LTD., TOKYO** *[’11,’12]*

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- Completed basic level Japanese course with **top** grade
- Learnt **particles**, **verb** forms, **adjective** forms and **sentence** patterns
- Participated in **calligraphy** workshop for basic **Kanji**
- Currently pursuing **intermediate** level course

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**THIRD PERSON ADVENTURE GAME DESIGN** *[’11]*

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- Created a third person survival themed **adventure** game with an intellectual spin using Unity
- Crafted **unique** gameplay elements and puzzles to illustrate **renewable energy** concepts
- Worked on **Textures**, **Models**, **Game** design and **Level** design using Photoshop and 3ds Max
- Pre-baked shadows in textures to **optimize** performance by texture swapping of sets

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**MISCELLANEOUS**

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- Worked with C++ and Python
- Used MS Office, Mathematica, 3ds Max, Maya, Photoshop, SketchUp
- Trained in western classical Violin
- Avid reader; genres of interest are Fiction, Science Fiction, High fantasy etc.
- Qualified in Nexus – solar powered car competition in TECHFEST 2009
- Interested in new and upcoming technology, passionately follow tech blogs
- Enjoy playing Strategic and role playing games
- Enjoy watching professional e-sports events



**Energy Systems Engineering**  
**Indian Institute of Technology Bombay**  
**Specialization: Energy Systems Engineering**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 16/08/1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	9.54
Intermediate/+2	Andhra Pradesh State Board	Nalanda	2008	95.90
Matriculation	ICSE	Vikasa Vidhya Vanam	2006	89.67

### SCHOLASTIC ACHIEVEMENTS

- Currently **Institute Rank 1** on the basis of cumulative grade points among **Dual Degree students** of '08 batch
- Awarded **Institute Academic Prizes for Academic Excellence** in '09, '10, and '12
- Selected among **270** students across India, China, Mexico and Brazil for **MITACS Globalink '12** internship in Canada
- Secured a perfect Semester Performance Index of **10.0** in 4<sup>th</sup> and 5<sup>th</sup> semesters
- Completed **Minor Degree** in Electrical Engineering
- Among **top 1%** students in **Indian National Physics Olympiad 2008**
- Ranked **17<sup>th</sup>** in Andhra Pradesh Engineering, Agricultural and Medical Common Entrance Test 2008
- Awarded merit certificate in APAMT **State Junior Level Mathematics Olympiad 2005**

### LEADERSHIP EXPERIENCE

**DEPARTMENT ACADEMIC MENTORSHIP PROGRAM (DAMP) COORDINATOR** (Apr'11 - Present)

- **Institutionalized first ever DAMP** in Energy Science and Engineering department to aid academically struggling students through guidance and motivation
- Currently **leading** a group of **5 mentors** to assist **14 students** in my **second consecutive term**
- Assisted **8 students** in **clearing their backlogs** during the academic year '11-'12

**TIFAC STUDENT'S INITIATIVE - VISION 2035** (Apr '12 - present)

*TIFAC is an autonomous organization set up in 1988 under Department of Science and Technology (Govt. of India) to predict technologies in areas of national importance*

- **Spearheading student's initiative** as part of 'Technology Vision 2035 program' to prepare a report, to be made available to the Govt. of India on energy technologies that our generation visualizes for the year 2035
- Member of the team that **designed framework and strategies** to enhance student involvement throughout India
- **Administering the 'solar group'** to gather views of students throughout India on solar energy technologies and policies to drive India into the future
- Targeting to reach over 8000 students throughout the country through various media such as online blogs, video conferences, and inter college events
- Final deliverables of student exercise will be a part of TIFAC VISION 2035 report, a basis for Indian policymaking

**CO-FOUNDER, HELIOS** (Aug '11 - Mar '12)

*Department of Energy Science and Engineering's annual technical festival*

- Led a **team of 10** organizers for execution of a 5-month long **publicity** campaign worth **INR 2 Lakhs**
- Built media campaign worth **INR 25 Lakhs** partnering with **DNA, Hindustan Times, and Maharashtra Times**
- Developed outreach to **6000+** students in over **100** leading technical institutes across India

### INTERNATIONAL INTERNSHIPS

**UNIVERSITY OF TORONTO, CANADA** (May '12 - Jul '12)

*Optical Properties of Nano materials (Kenneth Burch Group)*

- Studied topological insulators and **modeled** optical properties of Bismuth Selenide thin film over Silicon
- Upgraded Fourier Transform Infrared Red (FTIR) Spectroscopy setup to perform reflectance and transmission measurements together, using Arduino and LabVIEW
- Developed program to **automate FTIR setup** for measurements at constant temperature using LabVIEW
- Performed condensed matter experiments to determine optical characteristics of Bismuth Selenide thin film

*Semiconductor Sensitized Solar Cells (Gary Hodes Group)*

- Performed thin film depositions using Chemical Bath Deposition, Electrodeposition, Spin Coating, and Successive Ionic Layer Absorption and Reaction (SILAR) method
- Developed an Anodization technique to convert **copper** to **copper thiocyanate**
- Demonstrated a **new Semiconductor Sensitized Solar Cell** using Chemical Bath Deposition, and Electrodeposition

## KEY ACADEMIC PROJECTS

**EXTREMELY THIN ABSORBER (ETA) SOLAR CELLS**, Master's Thesis

(Jul '12 - present)

- Successfully demonstrated inverted morphology ETA solar cell concept with hole conductor as the initial substrate
- Incorporating Carbon Nanotubes in cells for enhancing electron and hole conduction to increase cell efficiency

**INDOOR HEAT LOSS TESTING FACILITY**

(Jan '12 - Apr '12)

- Designed an indoor testing facility for heat collector elements of parabolic trough collectors
- Performed stress strain analysis of every component, prepared **AutoCAD drawings** for fabrication, and identified suppliers and materials by thorough **market survey**

**GREEN GYM**

(Jul '11 - Nov '11)

- Identified the **limitations of energy conversion** from conventional equipment used in the gyms
- Designed an **energy generating shoulder press** gym equipment of rating **200W** and expected cost under **INR25000**

**INTELLIGENT POWER MANAGEMENT SYSTEM**

(Feb '10 - Apr '10)

- Conceptualized and designed a **simple** yet **scalable** logic circuit for automated indoor power utility management
- Built a **prototype** costing under **INR 500**, that **automatically** and **selectively** switches indoor utilities based on number of people in a room

**BIO GAS YIELD OPTIMIZER**

(Jul '11 - Nov '11)

- Extensively surveyed various models of **anaerobic decomposition** occurring in a continuous flow bio digester and developed a model for cow dung decomposition
- Optimized gas-liquid volume ratio of the bio digester, temperature, and hydraulic retention time (HRT) to achieve **maximum methane yield**

**ATOMIC LAYER DEPOSITION**

(Dec'10)

- Designed Atomic Layer Deposition (ALD) reactor and prepared engineering drawings
- Part of team that **successfully built** the **first custom made ALD reactor** in **India**

**AGGREGATE INDUSTRIAL ENERGY USAGE OF WORLD**

(May '09 - Jun '09)

- Carried out **comparative study** of aggregate industrial energy usage of **different regions** of the world based on the IEA database
- Identified **trends, deviation from trends, and potential causes** for these discrepancies in aggregate industrial energy usage of the world on a **regional basis**

## OTHER ACTIVITIES

**2012 GLOBALINK SYMPOSIUM**(29<sup>th</sup> May '12)

- One of **30 students** from India, Brazil and Mexico invited to attend Globalink Symposium Ottawa 2012 along with leading minds in Canadian industry, policy making, and government

**SPORTS**

- Completed **12 hour Swimmathon** held at IIT Bombay covering **14.6km** (Mar '10)
- Part of hostel team which finished **2<sup>nd</sup>** in **inter hostel water polo** competition ('12)
- Captain of the **silver winning** football team of Hostel 5 football league ('11)

**WATTSUP?***Energy Science and Engineering student magazine*

- Author of the article '**Solar Photovoltaics: An Overview**' published in 'Wattsup?', issue 1 (Mar '12)
- Interviewed pioneers in research such as Millennium Technology Prize winner, Dr. Michael Gratzel (Dec '11)



**Metallurgical Engineering & Material Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Ceramics & Composites**

**UG Third Year(Dual Degree )**  
**Female**  
**DOB: April 02, 1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.56
Intermediate/+2	CBSE	Carmel Convent Sr. Sec. School, Bhopal	2009	91.00
Matriculation	CBSE	Carmel Convent Sr. Sec. School, Bhopal	2007	94.00

## AWARDS AND HONORS

- Awarded **NTSE Scholarship (National Talent Search Examination)**, by NCERT (given to **top 0.1%** students) [2007]
- Shortlisted for the interview of the **Kishore Vaigyanik Protsahan Yojana (KVPY)** scholarship program. [2007]
- Received **Certificate of Merit** from CBSE for being in the **top 0.1% in Mathematics** [2007]
- 1 of 50 recipients of M.P. Govt.'s **State Science Talent Search Scholarship (SSTSE)** [2006]
- **Gold** medal recipient at City Montessori's **International Young Mathematicians Convention**. [2006]
- Presented paper on **Biodiversity Conservation in the Bhoj Wetlands** at **State Children's Science Congress**. [2005]

## EXPERIENCE

### **ASPIRE ADVISORS**, *Strategy and Management Consulting*

[May-July 2012]

- Developed a special **subscription report** on the scope for generic **drug innovation** to aid **product portfolio expansion**, aimed at Indian pharmaceutical players.
- Proposed **marketing strategies** for **penetration in Indian rural markets** for various sectors, viz FMCG, agribusinesses, energy, services and consumer goods.
- Developed an **investor guidebook** detailing the investment and growth landscape of the Indian pharmaceutical sector.

### **GLOBAL SHAPERS KARNATAKA**, *India Chapter, Global Shapers (World Economic Forum Initiative)*

[May 2012- present]

- Develop **social media marketing and online publicity campaigns** for the society's initiatives like Startup Immersion Programme, CEO shadowing etc.
- **Increased reach** by about **300%** and **virality to 3-4 %** during the above mentioned period.

## CONFERENCE AND WORKSHOPS

### **HARVARD US-INDIA INITIATIVE SUMMER CONFERENCE 2012**

[Aug 2012]

- **1 of 200** candidates selected by the Harvard US India Initiative panel.
- Proposed design changes to **enhance efficiency of a cycle rickshaw**, pitched the idea to a **panel of Angel Investors**.

## POSITIONS OF RESPONSIBILITY

### **EDITOR, DEPARTMENT MAGAZINE**

[Aug 2012-present]

- Part of the **18 member General Council** of the 750 strong Metallurgical Engineering & Material Sciences Department.
- Responsible for **publishing the Department's semi-annual magazine**, Dhatuki, covering latest metallurgy and materials industrial and academic research, with a **circulation of 600**.

### **COORDINATOR, MOOD INDIGO, INSTITUTE CULTURAL FESTIVAL**

[April-Dec 2011]

- Acted as liaison with Times of India and Bombay Times to co-publish **Mirage, Mood Indigo's Newsletter**.
- Worked in a 15 member team to **engage with various Media bodies** to **secure tie-ups and publicity mileage**.
- Acted as point of contact for **media and journalists** to publish **30 press releases** spread over seven months.
- Coordinated with the **media partners** of Mood Indigo 2011 on the **execution of marketing deals**.

## HOSTEL CULTURAL SECRETARY, DRAMATICS

[Mar 2011-2012]

- Elected **unanimously** for the post by an **electorate of 550** hostel inmates.
- Worked with secretaries of 2 other hostels to lead the joint hostels' team to **second place** in the **Performing Arts Festival (PAF)** twice in the tenure (2011 and 2012).
- Secured a **position in the Dramatics General Championship**, inter hostel competition during the tenure.

## KEY PROJECTS

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**RANDOM GRAPHICS GENERATOR**, Guide - *Prof. RK Joshi, Dept of Computer Science.*

[April 2011]

- Developed a program to generate graphic designs for the traditional Indian artwork of Rangoli.
- Employing simulation of a kaleidoscope to generate patterns out of basic geometric figures.

**BIO-DIVERSITY CONSERVATION IN BHOJ WETLANDS**, *State Children's Science Congress, MP*

[Sept-Nov 2005]

- Investigated the various sources of pollution at the catchment areas of the Bhoj Wetlands in Madhya Pradesh.
- Proposed **plantation of reed grass** at the sources to reduce the nutrient load flowing into the water bodies.
- The suggestion was **well received** by government officials at the **Bhoj Wetland Project, Govt. of MP.**

## EXTRA CURRICULAR INTERESTS AND ACHIEVEMENTS

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### CULTURAL

- Awarded **Special Mention** for **organisation** in a three-hostel production for the **Performing Arts Festival (PAF)**.
- Won a **position** in the **Dramatics General Championship**, the inter hostel dramatics competition.
- **Wrote and directed a play** that was staged as part of **Sophie Prod, the annual sophomore dramatic event**.
- **Photographs and Art work** displayed at **Kala Darshan**, the Institute's Art and Photography Exhibition.
- Performed in **the Performing Arts Festival (PAF)** at the institute level in 2011.

### ROBOTICS

- Designed and built a **wireless remote controlled racing car** for Trackmania.
- Designed and built a **line-following robot** for an institute-wide Robotics Competition.



Chemical Engineering  
Indian Institute of Technology, Bombay

B.Tech.  
Male  
DOB: 18/09/1988

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2009	8.18

## WORK EXPERIENCE AND ACADEMIC PROJECTS

**Toyo Engineering India Ltd. (Mumbai)** (April-August '09)

- Modeled diffusion of stack gases from the Coker unit at **IOCL's plant** in Vadodara.
- Established the low toxicity of these gases, **pre-empting expenditure** on safety equipment.
- Surveyed and interpreted information on "Reactive absorption of H<sub>2</sub>S and CO<sub>2</sub> using alkanol amines", facilitating **efficient design** of gas treatment plants, and **cutting capital and operating costs**.

**Hindustan National Glass and Industries Ltd. (Rishra)** (May-July '07)

- Identified problem areas in loss of raw-materials (sand) and suggested ways of **minimizing** the same.
- Implemented methods to **optimize** furnace thermal **efficiency** by identifying areas of heat loss.

**Acetaldehyde Production, Engineering Design Project** (July '09-present)

- Working on the **design** of a **10000 MTA acetaldehyde production plant**.
- Project includes **economic analysis**, consideration of **plant location**, **design** of equipment using **ASPEN**, specification of key parameters and **material and energy balances** for each unit process.

**Rheology of Thin Films, Guide: Prof. Mahesh Tirumkudulu (IIT Bombay)** (May-July '08)

- Designed a device to **measure stresses** in thin films by applying a sinusoidally varying force to the film.
- Demonstrated sinusoidal oscillations by **monitoring** the path of the laser reflected off a silicon wafer.

## EXTRACURRICULAR ACTIVITIES

### Sports:

- Represented Maharashtra in 4 swimming events at 2 **National level competitions**, '00 to '03.
- Won a **silver medal** in the 200m Butterfly stroke event at the **National School Games**, '01.
- Won over **100 medals** at **national, state, district and inter-school** swimming competitions and **sea races** from '97 to '04. Was **thrice felicitated** by the Greater Mumbai Amateur Aquatic Association.
- Won **14 gold (including 5 records), 14 silver and 2 bronze medals** at **Inter IIT Aquatics Competitions** over 4 years, **thrice** leading IIT Bombay to **victory** in the **Swimming Championship**.
- Key member** of the **silver and bronze medal** winning **water polo** teams in **Inter IIT Aquatics**, '06 and '09.

### Music:

- Trained in **Indian classical music** for 12 years (**Santoor**) and 7 years (**Tabla**).
- Rendered **solos** and **won** competitions in **renowned organisations** such as **Sangeet Kala Kendra**.
- Member of **two student bands** which have **headlined** at D.Y. Patil College (January '09), **opened Kailash Kher's concert** for a crowd of over **7000** (December '08) and played at many other **prestigious concerts**.
- Won **1st, 2nd and 3rd** places (Malhar'08/'09-St. Xavier's College, Mumbai), **2nd** place including **best original song** (Mood Indigo'08-IIT Bombay) and two **1st** places and a **2nd** place (Chaos'09-IIM Ahmedabad) in **band events**.

## HONOURS AND AWARDS

- Institute Sports Freshman of the Year**, '06-07. (Awarded to **one** student from a batch of **1000**)
- Best Male Swimmer of the Championships**, Inter IIT Aquatics Championships, '09.
- Institute Sports Colour**, '07-08, for exemplary contribution to sports, '07-08.
- Institute Cultural Special Mention**, '08-09, for outstanding contribution to music.
- Two Hostel Sports Colours**, '07-08 and '08-09 and **Hostel Cultural Special Mention**, '08-09.

## POSITIONS OF RESPONSIBILITY/ORGANIZATIONAL WORK

**Captain, Swimming Team, IIT Bombay** (July '09-present)

- Led a team of **11 swimmers** to the **runners-up** position at the **Inter IIT Aquatics Championship**, in October '09.
- Currently **coaching** several team members to improve their **technique** and **stamina**.

**Sports Secretary, Hostel 4, IIT Bombay** (July '07-April '08)

- Led the hostel to an **inter hostel sports general championship victory** over 11 other hostels, winning **5** out of **12** individual sports events.
- Organized** intra hostel events such as football, cricket and volley ball tournaments.





Chemical Engineering  
Indian Institute of Technology, Bombay

B.Tech.  
Male  
DOB: 18/09/1988

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2009	8.18
Intermediate/+2	Maharashtra Board	D.G. Ruparel College	2006	85.17
Matriculation	ICSE	Campion School	2004	93.67

## WORK EXPERIENCE AND INTERNSHIPS

### *Toyo Engineering India Ltd. (Mumbai)*

(April-August '09)

- Modeled diffusion of stack gases from the Coker unit at IOCL's plant in Vadodara.
- Established the low toxicity of these gases in contradiction to the opinion of professional technical consultants, pre-empting expenditure on safety equipment.
- Surveyed and interpreted data on "Reactive absorption of H<sub>2</sub>S and CO<sub>2</sub> using alkanol amines".
- Developed a model to choose optimal temperature, pressure and amine concentration values, facilitating design of efficient gas treatment plants and cutting capital and operating costs.

### *Hindustan National Glass and Industries Ltd. (Rishra)*

(May-July '07)

- Performed mass and energy balance calculations on each unit process in the plant.
- Identified problem areas in loss of raw-materials (sand) and suggested ways of minimizing the same.
- Implemented methods to optimize furnace thermal efficiency by identifying areas of heat loss.

## KEY ACADEMIC PROJECTS

### *Acetaldehyde Production, Engineering Design Project*

(July '09-present)

- Designing a 10000 MTPA acetaldehyde industrial production plant.
- Project includes economic analysis, consideration of plant location, design of equipment using ASPEN, specification of key parameters and material and energy balances for each unit process.

### *Rheology of Thin Films, Guide: Prof. Mahesh Tirumkudulu (IIT Bombay)*

(May-July '08)

- Designed a device using magnets and computer speakers to measure stresses in thin films.
- The requirement that a sinusoidally varying force be applied remotely to the silicon wafer bearing the thin film made the project extremely challenging.
- Demonstrated sinusoidal oscillations by monitoring the path of the laser reflected off the silicon wafer.
- Facilitated calculation of stresses by comparing the laser's path before and after application of the film.

### *Junior Thesis, Guide: Prof. Mahesh Tirumkudulu (IIT Bombay)*

(July-November '08)

- Conducted an exhaustive literature survey on the use of Quartz Crystal Microbalance (QCM) as a tool to measure mechanical properties of thin films.
- Presented and explained key mathematical and physical concepts involved in the use of QCMs as relevant to measurement of viscosity, surface tension and elastic modules of thin films.

### *Computational Project, Guide: Prof. Madhu Vinjamur (IIT Bombay)*

(November '08)

- Wrote a code in MATLAB using Galerkin's Finite Element Method to solve the problem of drying of a solvent-polymer film with high accuracy and precision.
- The code calculated the concentration and temperature profiles of the film.



### *Calculator and Grapher, C++ Project (IIT Bombay)*

*(July-November '06)*

- Wrote a code to create a **scientific calculator** with **graphing capabilities** using the **EzWindows GUI**.
- Commands to **differentiate** and **integrate** functions of a single variable were also included.

### **COMPUTER SKILLS**

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- **Packages:** MATLAB, ASPEN, FLUENT, GAMBIT, SCILAB
- **Languages:** C, C++

### **EXTRACURRICULAR ACTIVITIES**

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#### *Sports:*

- **Represented Maharashtra** in 4 swimming events at 2 **National level competitions**, '00 to '03.
- Won a **silver** medal in the 200m Butterfly stroke event at the **National School Games**, '01.
- Won over **100 medals** at **state** and **district** level swimming competitions/sea races from '97 to '04.
- Won **14 gold (including 5 records), 14 silver** and **2 bronze medals** at **Inter IIT Aquatics Competitions** over 4 years, **thrice** leading IIT Bombay to **victory** in the **Swimming Championship**.
- **Key member** of the teams that **won silver** and **bronze medals** at the **Inter IIT water polo Championships** in '06 and '09, respectively.

#### *Music:*

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#### *Others:*

- Among the **top 10** teams out of **100** in "**Ripples**", a **robotics** competition at **Techfest**, '07.
- **Won** many competitions in **debating, impromptu speech** and **essay writing** in school, ('97-04).

### **HONOURS AND AWARDS**

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*(July '07-April '08)*

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Male  
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- **Designed** a device using magnets and computer speakers to **measure stresses** in thin films.
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## **EXTRACURRICULAR ACTIVITIES**

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- Have won **14 gold (including 5 records), 14 silver** and **2 bronze medals** at **Inter IIT Aquatics Competitions** over 4 years, **thrice** leading IIT Bombay to **victory** in the **Swimming Championships**.
- **Key member** of the teams that **won silver** and **bronze medals** at the **Inter IIT water polo Championships** in '06 and '09, respectively.
- **Captain** of the hostel **water polo team** since July '07. **Led** the hostel to **1st** ('07) and **2nd** ('08) place in the inter hostel championship. Scored the **highest number** of goals in the tournament, each year.

### ***Music:***

- **Trained in Indian classical music** for 12 years (**Santoor**) and 7 years (**Tabla**).
- Rendered **solos** and **won** competitions in **renowned organisations** like **Sangit Kala Kendra**.
- Member of **two bands** which have **headlined** at D.Y. Patil College (January '09), **opened Kailash Kher's concert** for a crowd of over **7000** (December '08) and played at many other **prestigious concerts**.
- Won **1st, 2nd** and **3rd** places (Malhar'08/'09-St. Xavier's College, Mumbai), **2nd** place (Mood Indigo '08-IIT Bombay) and two **1st places** and a **2nd** place (Chaos'09-IIM Ahmedabad) in **band events**.
- **Composed** and **played** many **award winning original compositions** (including awards for **best original song** at Mood Indigo '08 and Chaos '09) as a part of these bands.
- Was part of a team that **composed** and **played** the background score at the annual **Performing Arts Festival (PAF)** at IIT Bombay, '08 and '09. Won the „**best music**’ award ('08) and the **best PAF** ('09).

### ***Others:***

- Among the **top 10** teams out of **100** in “**Ripples**”, a **robotics** competition at **Techfest**, '07.
- **Won** many competitions in **debating, impromptu speech** and **essay writing** in school, ('97-04).

## **HONOURS AND AWARDS**

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## **POSITIONS OF RESPONSIBILITY/ORGANIZATIONAL WORK**

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### ***Captain, Swimming Team, IIT Bombay***

*(July '09-present)*

- **Led** a team of **11** swimmers to the **runners-up** position at the **Inter IIT Aquatics Championship**, '09.
- Currently **coaching** several team members to improve their **technique** and **stamina**.
- Responsible for **conducting trials**, scheduling practices and **selecting** and **representing** the team.

### ***Sports Secretary, Hostel 4, IIT Bombay***

*(July '07-April '08)*

- **Led** the hostel to an **inter hostel sports general championship victory** over 11 other hostels by a huge margin, winning **5** out of **12** individual sports events.
- **Organized** intra hostel events such as football, cricket and volley ball tournaments and **increased enthusiasm** among hostel mates by introducing **initiatives** such as betting, with great success.



Chemical Engineering  
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B.Tech.  
Male  
DOB: 19/09/88

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	6.91

### Industrial Experience

**Cadila Pharmaceuticals Limited, Ankleshwar, Gujrat**

[May 10 – June 10]

*Solvent Recovery Plant*

- **Identified** room for improvement in the recovery process and proposed **new methodology** for separation of Ethyl Acetate and Hexane mixture; **modeled** and **simulated** the operation on **Aspen Plus**
- **Prepared** a detailed Batch Process Report (BPR) for more efficient process with **40%** increased recovery using **innovative** reflux policy of refluxing two phases simultaneously from the decanter
- Carried out **exhaustive cost analysis** for the process and tuned the parameters accordingly, estimated **savings** of over **₹40 lakh** annually

### Key Positions of Responsibility

**General Secretary, Department of Chemical Engineering**

[April 10 - Present]

*Elected Head Student Representative of the department*

- **Systematized** an equal opportunity mechanism for project allocation, **first of its kind** in the institute
- **Appointed** and is **chairing** a committee responsible for a rigorous review on the new curriculum
- **Conceptualized** and **executed**, CHEQ-2010, **State level** Chemical Engineering Quiz, organized by **IChE** and **ChEA**; raised corporate sponsorship of **₹1 Lakh**
- **Revived Student-Industry interaction** through Industrial visits and Industry specific projects for students

**Alumni and Seminar Secretary, Chemical Engineering Association**

[April 09 – March 10]

*Representative of the department in the Alumni fraternity*

- Developed a **sustainable** alumni network by creating an online forum and increased the database by **400%**
- **Organized** department visit for over 50 alumni on Alumni Day to **promote Alumni-Faculty interaction**
- **Planned** and **executed**, for the **first time**, mock GD and PI sessions by professionals for over **130 students**
- **Single-handedly led** a team of **9 volunteers** to render services to more than 250 participants of **Azeotropy 2k10**

### Key Projects

**Simulated Moving Bed Chromatography, Dept. of Science and Technology – Govt. of India**

[July 08 – Oct 08]

*Guide: Prof. Sharad Bhartiya, IIT Bombay*

- **Developed Proof of Concept** and **proposed a methodology** for continuous separation of glucose and fructose using multi channel Simulated Moving Bed Chromatographic (SMBC) system
- **Identified** adsorbent packing material and other parameters to be used and **modeled** an equivalent True Bed Chromatographic (TMB) system to ease the process of modeling of SMBC
- **Analysed** the performance criteria and **optimized** SMBC parameters to **increase** purity, recovery and productivity

**Indian Institute of Management Lucknow**

[May 08 – June 08]

*Changing consumer behaviour in Insurance products*

- Carried out **ANOVA** and **Cluster** analysis using **SPSS** on the data amassed by rigorous surveys
- Identified **patterns** in consumer behaviour classified according to demography, age group and income of the consumers

### Awards & Extra Curricular Activities

- Awarded Hostel **Organizational Colour** for contribution as a **Social secretary** of the hostel
- Awarded **PAF Special Mention** for PAF 08 and PAF 09 for commendable contribution to the event
- Member of Dramatics team of **winning** PAF team in 2008
- Awarded a certificate of excellence for **swimming 8.5 hours** covering a distance of **12 KM** in **Swimathon 08**
- Part of **winning** Hostel Aquatics team in 2008
- An active member of **Group of Rural Activities**; volunteered in the Abhyasika, a program where volunteers **teach** students in the slum near the campus



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Indian Institute of Technology, Bombay

B.Tech.  
Male  
DOB: 19/09/88

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	6.91
Intermediate/+2	CBSE	St. John's Sr. Sec. School Kota	2007	87.00
Matriculation	CBSE	Modern Public School Bhiwadi	2005	79.20

## Industry Projects

### Cadila Pharmaceuticals Limited, Ankleshwar, Gujrat

[May 10 - June 10]

#### Solvent Recovery Plant

- **Examined** and **studied** the different recovery processes of solvents purged from manufacturing units
- **Discovered** room for improvement in methodology for separation process of Ethyl Acetate and Hexane and **proposed** *Heterogeneous Azeotropic Batch Distillation* over the conventional Batch Distillation in use
- **Modeled** and **simulated** the operation on **Aspen Plus** and **evaluated** the essential parameters (distillate, decanter residue, fresh feed) to aid operation team with varying mother liquor composition
- **Prepared** a detailed *Batch Process Report* (BPR) for more efficient process of **40%** increased recovery using **innovative** reflux policy of refluxing two phases simultaneously from the decanter
- Carried out **exhaustive cost analysis** for the process and **tuned** the parameters accordingly; estimated **savings** of **~4 million** annually
- Results forwarded to the main R&D centre (in Dholka) for scalable transformation

### Simulated Moving Bed Chromatography, Dept. of Science and Technology – Govt. of India

[July 08 – Oct 08]

#### Guide: Prof. Sharad Bhartiya, IIT Bombay

- Studied conventional techniques used in industries for the separation of Glucose and Fructose
- **Developed Proof of Concept** and **proposed a methodology** for continuous separation using multi channel Simulated Moving Bed Chromatographic (SMBC) system
- **Identified** adsorbent packing material and other parameters to be used and **modeled** an equivalent True Bed Chromatographic (TMB) system to ease the process of modeling of SMBC
- **Analysed** the performance criteria and **optimized** SMBC parameters to **increase** purity, recovery and productivity; procurement of materials and fabrication work is in process

## Key Projects

### Reactor Modeling with Cooling Stream

[Oct 09 – Nov 09]

#### Course Project for Chemical Reaction Engineering

- **Optimized** liquid hourly space velocity (LHSV) to obtain maximum concentration of desired product in a reversible series reaction for PFR as well as CSTR at given operating conditions
- **Simulated** using **Scilab**, the CSTR model at the steady state operating conditions and **analyzed** the system for varying operating parameters

### Methane gas Compressor Assembly

[Aug 10 – Sep 10]

#### Course project for Process Equipment Design and Economics

- **Designed** a compressor assembly with intercoolers to achieve required compression ratio
- Generated **process flow diagram** and carried out **cost analysis** to determine capital and operating cost

### Designing Utilitarian products for elderly

[Sep 09 – Oct 09]

#### Guide: Prof. B K Chakravarthy, Industrial Design Centre – IIT Bombay

- **Studied** several existing innovative products in the market and carefully **evaluated** their merits and demerits
- **Conceptualized** and **designed** two entirely **new products**, *Walker-cum-Chair* and *Chair with lifting assistance*, for the elderly and **illustrated** their advantages over the available substitute products
- **Modeled** basic designs in **SolidWorks**, a 3D CAD design software

### Changing Consumer behaviour in Insurance products

[May 08 – June 08]

Guide: Prof. Satyabhushan Dash, Head Marketing, IIM Lucknow

- Carried out **ANOVA** and **Cluster** analysis using **SPSS** on the data amassed by rigorous surveys
- Identified **patterns** in consumer behaviour classified according to demography, age group and income of the consumers

### Arkanoid

[Sep - Nov 07]

Course Project for CS 101

- In a team of three, built a game Arkanoid, comprised of a ball, a glider and number of bricks, programmed using EZWindows with 3 levels of varying difficulties and different implementation logics

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## Positions of Responsibility

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### General Secretary, Department of Chemical Engineering

[April 10 – Present]

- Students representative in DUGC, committee for making undergraduate **academic policies**
  - **Systematized** an equal opportunity mechanism for project allocation, **first of its kind** in the institute
  - **Appointed** and **chaired** a committee responsible for a rigorous review on the curriculum
- **Conceptualized** and **executed**, CHEQ-2010, **State level** Chemical Engineering Quiz, organized by **IChE** and **ChEA**; raised corporate sponsorship in excess of **₹1 lakh**
- **Revived Student-Industry interaction** through Industrial visits and Industry specific projects for students
- **Initiated** Lab visits for department freshmen to showcase and promote ongoing research activities
- Instrumental in **formulating** and **implementing** the new open curriculum structure in the institute in coordination with the institute academic council
- **Drafted** new time table to aid backlog students and held **mentoring** sessions for the students regarding academic activities in coordination with D-AMP (Department Academic Mentorship Program)

### Alumni and Seminar Secretary, Chemical Engineering Association

[April 09 – March 10]

Representative of the department in the Alumni fraternity

- Incorporated a **sustainable structure** to the present alumni network by creating an online forum; **achieved a four- fold** increase in the active members on board
- **Planned** and **executed**, for the **first time**, mock GD and PI sessions by professionals for over **130** students in the department to cultivate performance in placements
- **Organized** department visit for over 50 alumni on Alumni Day and **illustrated** before them major research activities of the department to **promote Alumni-Faculty interaction**
- **Manager, Events and Accommodation, Azeotropy 2k10**, India's largest Chemical Engineering Symposium
  - **Initiated** professional workshop on Aspen Plus, attracting people from both academia and industry
  - **Single-handedly led** a team of 9 volunteers to render services to more than 250 students

### Social Secretary, Hostel – 6

[August 08 – April 09]

Responsible for promoting and maintaining a healthy interaction within the students of the hostel

- **Coordinated** with other Social Secretaries in the institute to negotiate bulk deals on major social events
- Was awarded Hostel **Organizational Colour** for outstanding contribution as a council member

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## Awards and Extra Curricular Activities

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- Awarded **Department Organizational Mention** for contribution as a ChEA secretary
- Member of Dramatics team of **1<sup>st</sup> prize winning** PAF (Performing Arts Festival) team in 2008
- Awarded **PAF Special Mention** for PAF 08 and PAF 09 for commendable contribution to the event
- Swam continuously for **8 hours and 30 minutes**, covering **12 KM** in Swimmathon 08
- Part of **1<sup>st</sup> prize winning** Hostel Aquatics team in 2008
- An active member of **Group of Rural Activities**; volunteered in the *Abhyasika*, a program where volunteers teach students in the slum near the campus



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[April 09 – March 10]

*Representative of the department in the Alumni fraternity*

- Incorporated a **sustainable structure** to the present alumni network by creating an online forum; **achieved a four- fold** increase in the active members on board
- Identified and **added** four Alumni in the **first-ever** Alumni Student Mentorship Program, in coordination with the Student Alumni Relation Cell (SARC)
- **Initiated** interactive sessions with department alumni to explore various career avenues
- **Planned** and **executed**, for the **first time**, mock GD and PI sessions by professionals for over **130** students in the department to cultivate performance in placements
- **Organized** department visit for over 50 alumni on Alumni Day and **illustrated** before them major research activities of the department to **promote Alumni-Faculty interaction**

### Manager, Events and Accommodation, Azeotropy 2k10

[Oct 09 – March 10]

*India's largest inter-collegiate Chemical Engineering Symposium*

- **Single-handedly led** a team of 9 volunteers to cater to the hospitality of more than 250 students
- **Initiated** professional workshop on Aspen Plus, attracting people from both academia and industry
- **Organized** a panel discussion on the topic *System Analysis in Process Engineering* involving panellists from both academia as well as industries like **UDHE** and **Reliance**

### Social Secretary, Hostel – 6

[Aug 08 – April 09]

*Responsible for promoting and maintaining a healthy interaction within the students of the hostel*

- **Coordinated** with other Social Secretaries in the institute to negotiate bulk deals on major social events
- Was awarded Hostel **Organizational Colour** for outstanding contribution as a council member

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## Key Projects

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### Industrial Design Centre – IIT Bombay

[Sep 09 – Oct 09]

*Designing Utilitarian products for elderly*

- **Studied** several existing innovative products in the market and carefully **evaluated** their merits and demerits
- **Conceptualized** and **designed** two entirely **new products**, *Walker-cum-Chair* and *Chair with lifting assistance*, for the elderly and **illustrated** their advantages over the available substitute products
- **Modeled** basic designs in **SolidWorks**, a 3D CAD design software

### Indian Institute of Management Lucknow

[May 08 – June 08]

*Changing consumer behaviour in Insurance products*

- Carried out **ANOVA** and **Cluster** analysis using **SPSS** on the data amassed by rigorous surveys
- Identified **patterns** in consumer behaviour classified according to demography, age group and income of the consumers

### Methane gas Compressor Assembly

[Aug 10 – Sep 10]

- Designed a compressor assembly with intercoolers to achieve required compression ratio
- Generated **process flow diagram** and carried out cost analysis to determine capital and operating cost

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## Awards and Extra Curricular Activities

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- Awarded **Department Organizational Mention** for contribution as a ChEA secretary
- Awarded **PAF Special Mention** for PAF 08 and PAF 09 for commendable contribution to the event
- Member of Dramatics team of **1<sup>st</sup> prize winning** PAF team in 2008
- Awarded a certificate of excellence for **swimming 8.5 hours** straight covering a distance of **12 KM** in the event **Swimathon 08**
- Part of **1<sup>st</sup> prize winning** Hostel Aquatics team in 2008
- An active member of **Group of Rural Activities**; volunteered in the *Abhyasika*, a program where volunteers **teach** students in the slum near the campus



Computer Science & Engineering  
Indian Institute of Technology, Bombay

B.Tech.  
Male  
DOB: March 12, 1989

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	9.18
Intermediate/+2	CBSE	St. Joseph's Sr. Sec. School	2007	84.00
Matriculation	CBSE	St. Paul's Sr. Sec. School	2005	90.00

#### SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 28** in IIT-JEE among 250,000 students (2007)
- Secured **All India Rank 59** in AIEEE among 600,000 students (2007)
- Merit Award (top 15) and Gold Medalist (top 25) in **Indian National Chemistry Olympiad** (2007)
- Gold Medalist** (top 35 out of 42,000 students) in **Indian National Physics Olympiad** (2007)
- Pursuing **Minors in School of Management** and **Honors** in Computer Science and Engineering

#### SCHOLARSHIPS

- Awarded **ACM SIGCOMM grant** offered by ACM SIGCOMM Organizing Committee (2010)
- Received **CBSE Merit** scholarship for securing position in merit list in AIEEE (2007)
- Received **Kishor Vaigyanik Protsahan Yojna** scholarship by Indian Institute of Science (2006)
- Awarded **National Talent Search (NTSE)** and **State Science Talent Search** scholarships (2005)

#### SUMMER INTERNSHIP

##### MICROSOFT RESEARCH, BANGALORE

(May '10 – July '10)

Ads Mobile: *Mobility Networks and Systems*

- Proposed a privacy preserving user discovery service to match and connect smart-phone users with similar location and interests - **first of its kind**
- Modeled some well known attacks and **incorporated appropriate defenses** to ensure user privacy
- Applications include well-targeted advertising, dating and social networking
- Technologies used were C#, ASP.NET, PHP
- Paper to be submitted at MobiSys, 2011:** Conference on Mobile Systems, Applications and Services

#### RESEARCH PROJECTS

##### Fast Ray Tracing of Point Based Models using GPUs - Undergraduate Thesis (Sep '10 – till date)

- Developing an efficient ray tracer that renders a scene represented by small circular discs, more effective than traditional polygon based primitive approach to render complex objects
- Designing a GPU specific memory efficient data structure to represent the discs
- Expecting to achieve a **speed up of over 30%** as compared to CPU ray tracers for fairly complex scenes
- Technologies being used are C++, CUDA (Compute Unified Device Architecture)

##### Isometry-based approach to Non-Rigid Structure from Motion

(Jul '10 – Sep '10)

- Reconstructing the 3D structure of a moving object using images taken over a period of time
- Implementing **non-linear minimization** to recover points from the image in each frame assuming isometric constraints to identify the most likely deformation of the model
- Technology being used is MATLAB

##### Vehicle Speed Detection using its Honk

(Jun '09 – Jul '09)

- Estimated velocities of automobiles by recording and analyzing their honks using 2 synchronized mobiles
- Achieved real time determination of speeds with an **overall accuracy of 95%**
- Applications include **low-budget installation** to gauge road congestion
- Technologies used were Java Servlets, J2ME (Java 2 Micro-Edition)

## DEVELOPMENT PROJECTS

### Interactive Assignment Grading Tool for Moodle 1.9.7

(Jul '09–Nov '09)

- Developed a tool for Moodle (IIT Bombay's Online Academic Portal) that facilitates online redressing of assignment grading related complaints by users
- Devised an interface to view files and make in-line comment threads within the submission
- **Appreciated** by Application Software Cell, IIT and will be **implementation on IIT-Bombay's Moodle** which is currently used by 6000 students and 400 faculty members
- Technologies used were PHP, Javascript

### Shape Detection and Motion Simulation

(Jun '09–Jul '09)

- Programmed a motion simulation of dynamically drawn freehand objects
- Implemented **real time** segmentation and detection of freehand sketches using threshold operations
- Contributed to **Open Source Software Community** by developing it as add-on to **Open Office**
- Technologies used were Open Office Basic, Open Office Drawing

### Ray Tracing and Keyframed Animation

(Jul '09–Nov '09)

- Animated a hierarchical model of a lamp by keyframing; imitating the famous **Pixar's Luxo Lamp**
- Engineered a recursive ray tracer, incorporating effects like shadows and reflections
- Technologies used were C++, Open Graphics Library (Open GL)

### Simulation of Network Routing

(Jul '08–Nov '08)

- Analysed **5 popular routing algorithms** on basis of space and time complexity and network flooding
- Developed a graphical user interface facilitating the user to specify his own network topology
- Technologies used were Java, C++

## POSITIONS OF RESPONSIBILITY

### Institute System Administrator

(Jul '10–till date)

*Elected by the Hostel System Administrators as student representative to the Computer Centre*

- Heading a **2-tier team** of 15 System Administrators and 40 Computer Secretaries to monitor the institute network and IT infrastructure and Gymkhana servers
- Playing a key role in the execution of the **Institute Network Revamp Project**
- Initiated an **eco-friendly electronic waste disposal** from all the hostels
- Organised technical orientation for the **first time** for Computer Councils of all hostels

### Hostel System Administrator

(May '09 – Apr '10)

- Introduced online elections in the hostel -**increased turn-up by 60%**
- **Increased fund allocation** from Computer Centre - acquired 5 new computers
- Revamped the hostel computer room that was dysfunctional for last 4 years
- Received **Hostel Organizational Color** for exemplary work during the tenure

## EXTRA CURRICULAR ACHIEVEMENTS

### Organisational Awards

- Awarded Performing Arts Festival (**PAF**) **Special Mention** for two consecutive years (2009, 2010)
- Awarded **Hostel Special Mention** during the tenure of Hostel Computer Secretary (2009)

### Rubik's Cubes

- Solving time for 3x3x3 Rubik's Cube - **30 seconds**
- Addressed **Rubik's Cube Solving workshop twice**, with an audience of 200 students (2009, 2010)
- Can solve 4x4x4 (Revenge), 5x5x5 (Professor), tetrahedron (Pyraminx), dodecahedron (Megaminx)

### Programming

- Ranked in **top 40** in the region in **ACM-ICPC Amritapuri Contest** (2009)
- Secured **Rank 3** among 35 teams in Department Programming Contest (2010)
- Member, Web and Coding Club; **mentored 2 students** on a project on Image Steganography (2010)



Department of Metallurgical Engineering and  
Materials Science

Indian Institute of Technology, Bombay

B.Tech.

Female

DOB: 21.02.1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	8.93

#### ACADEMIC ACHIEVEMENTS

- One of the **2** awardees from IITB to be bestowed with the **Summer Research Fellowship** jointly by the 3 Indian Science Academies (IASC, INSA & NASI) for academic excellence and concrete research plans (2009)
- Ranked **5<sup>th</sup>** among **77** students of the batch of 2007 of Metallurgical Engineering and Materials Science
- Conferred with an **AP** grade (**1** out of **167**), awarded after **5 years** in the course of Transport Phenomena
- Awarded the **Certificate of Merit** (top **0.1%** in Hindi) and school rank **1** in CBSE Matriculation (2005)

#### POSITIONS OF RESPONSIBILITY

**General Secretary**, Department of Metallurgical Engineering & Materials Science (Apr 2010 - till date)

- Elected as the representative of **700 students** heading a student **council of 22 members**
- Launched the **Materials Club** involving a group of **60** students and 2 Professors providing technical project opportunities to students and innovative ideas for the **"Go Green"** initiative
- Heading a student committee of **15** to review the course structure and content to facilitate equivalent courses in various departments and normalize the credits according to the course load

**Overall Coordinator**, Padarth (Department technical festival) (2009 – 10)

- Led a 2 tier team of over **60 student volunteers** to conceptualize and execute a gamut of events
- Expanded the **budget** of the festival by **100%** and participation by **200%** including other premier institutes
- Conferred with the **Department Organizational Special Mention** for exemplary contribution to the festival

**Sports Councillor**, Hostel 10 (2009 – 10)

- Led the hostel to its first victory in **five years** in the Women's Sports General Championship
- Efficiently managed **INR 0.1 million** to **revamp the gym** and introduce a **sports room** in the hostel
- Conferred with the **Hostel Organizational Colour** for reviving sports culture in the hostel

#### INTERNSHIPS AND ACADEMIC PROJECTS

**Bhabha Atomic Research Centre**, Mumbai (*Synthesis of Bulk Metallic Glass*) (May - July 2009)

- Identified alloys best suited for kinetic energy penetrator application used in the **defence sector**
- The work was recognized as one of the **top** research projects in India on the **National Metallurgy Day**

**I-maritime Consultancy**, Mumbai (*Feasibility study for a Container Liner Business*) (Dec 2009)

- Worked on a project worth **USD 130 million** investigating the feasibility of a route for container trade
- Optimized** the cost of the trade route between two nodes analyzing the demand-supply dynamics

**University of Alberta**, Canada (*Nanofabrication of Germanium (Ge) based semiconductor*) (May - July 2010)

- Proposed a **mathematical model** for predicting the dependence of pressure and velocity on the selective removal rate of Germanium during Chemical Mechanical Polishing for an **Industry sponsored project**

**Senior Thesis**, IITB (*Study of Piezoresistivity in Zinc Oxide thin films*) (Jul 2010 - till date)

- Plan to determine fabrication conditions for **maximum piezoresistive sensitivity** by a series of experiments

#### EXTRA CURRICULAR ACTIVITIES

##### Dramatics

- Anchored 30 minute **all-India TV broadcast** of a show on **National channel** News24 after winning auditions
- Lead actress** in critically acclaimed plays at **Thespo** Theatre Festival ('09), Theatre festival IITB ('08 and '10), Performing Arts Festival (PAF '09) and Broadway play at Chaos IIM-A ('10)
- Mentored 15** students in scripting and screenplay to perform at Sophomore Productions ('10)
- Conferred with the Hostel **Cultural & PAF Colour** ('09) for leading the hostel to win the **Dramatics trophy**

##### Sports

- Inter-IIT Sports Meet** ('07 and '08): Represented IIT Bombay as a part of the girls' Basketball team
- Won the **Silver** medal in girls' Basketball and **Overall Girls Championship** Trophy in Inter IIT 2008, Madras

**Teach for India Volunteer** (Dec '09)

- Tutored **underprivileged** students incorporating **innovative teaching techniques** for interactive learning



Department of Metallurgical Engineering and  
Materials Science

Indian Institute of Technology, Bombay

B.Tech.

Female

DOB: 21.02.1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	8.93
Intermediate/+2	Maharashtra State Board	Atomic Energy Junior College	2007	92.17
Matriculation	CBSE	Atomic Energy Central School	2005	95.80

## ACADEMIC ACHIEVEMENTS

- Pursuing a **Minor** in Electrical Engineering and **Honours** in Metallurgical Engineering & Materials Science undertaking **8** additional theory courses from the prescribed Bachelor's curriculum
- One of the **2** awardees from IITB to be bestowed with the **Summer Research Fellowship '09** by the 3 Indian Science Academies (IAsC, INSA & NASI) for academic excellence and concrete research plans
- Ranked **5<sup>th</sup>** among **77** students of the batch of 2007 of Metallurgical Engineering and Materials Science
- Conferred an **AP** grade (**1** out of **167**), awarded after **5 years** in the course of Transport Phenomena
- Amongst the **top 1%** in the **Indian National Physics Olympiad** (2007)
- Awarded the **Certificate of Merit (top 0.1 % in Hindi)** and school rank **1** in CBSE 10<sup>th</sup> Board (2005)

## INTERNSHIPS

**Bhabha Atomic Research Centre, Mumbai**

(May - July 2009)

Project Title: **Synthesis and Characterization of Reinforced Bulk Metallic Glass**

- Identified alloys best suited for **kinetic energy penetrator** application used in the **defence sector**
- Gained **hands-on experience** on sophisticated characterization and mechanical testing equipments
- Addressed the **Director of BARC**, alongside other eminent scientists at the final thesis presentation
- The work was recognized in the **top** ongoing research projects in India on the **National Metallurgy Day** conference attended by more than **1000 delegates** from all over the country

**University of Alberta, Canada**

(May - July 2010)

Project Title: **Nanofabrication of Germanium (Ge) based semiconductors**

- Inspected the effect of various parameters on deposition rate of Ge for an **Industry sponsored project**
- Proposed a **mathematical model** for predicting the dependence of pressure and velocity on the selective removal rate of Germanium during Chemical Mechanical Polishing

**I-maritime Consultancy, Mumbai**

(Dec 2009)

Project Title: **Feasibility study for a Container Liner Business**

- Worked on a **project worth USD 130 million** investigating the feasibility of a route for container trade
- Optimized** the cost of the trade route between two nodes analyzing the demand-supply dynamics

## ACADEMIC PROJECTS

**Study of Piezoresistivity in Zinc Oxide thin films** (Senior Thesis)

(Jul 2010 - till date)

- Determined fabrication conditions for **maximum piezoresistive sensitivity** by a series of experiments
- Aim to analyze general dependence of crystallographic orientation on piezoresistivity thereby giving way to **discovery of materials** that can be used for piezoresistivity applications

**Manufacturing Processes** (Seminar)

(Jul 2010 – till date)

- Surveyed the processing details and applications of "**Equal Column Angular Press**" technique used Industrially to produce **high-strength** and **grain-refined** structures

**MEMS based Cantilever Bio-Sensors** (Junior Thesis)

(Jan – Apr 2010)

- Conducted an extensive literature survey of 20+ scientific publications and presented a talk on **biosensors** and its potential application in **initial detection of cancerous cells**

**Industrial Production of low-cost Die Sensitized solar Cells** (Business Plan) (Jul - Nov 2009)

- Developed a business model for the production and distribution of **low-cost Die Sensitized Solar Cells**

**Solid Oxide fuel cell (SOFC)** (Summer Project) (May – June 2008)

- Examined various methods of **molding** and **extrusion** for making the cylindrical cathode of SOFC
- Prepared LSM cathodes for various porosities and dimensions by the process of **slip casting**

## POSITIONS OF RESPONSIBILITY

**General Secretary**, Department of Metallurgical Engineering & Materials Science (Apr 2010 - till date)

- Elected as the representative of **700 students** heading a student **council of 22 members**
- Launched the **Materials Club** involving a group of **60** students and 3 Professors providing technical project opportunities to students and innovative ideas for the “Go Green” initiative
- Heading a student committee of **15** to review the course structure and content to facilitate equivalent courses in various departments and normalize the credits according to the course load
- Organized interactive sessions with **Alumni** and **Work Visits** to give an Industrial exposure to students

**Overall Coordinator**, Padarth (Department technical festival) (2009 – 10)

- Led a 2 tier team of over **60 student volunteers** to conceptualize and execute a gamut of events
- Increased the **budget** of the festival by **100%** and participation by **200%** including other IITs and NITs
- Awarded the **Department Organizational Special Mention** for exemplary contribution to the festival

**Sports Councillor**, Hostel 10 (2009 – 10)

- Led the hostel to **victory** in the Women Sports General Championship **after a gap of five years**
- Efficiently managed **INR 0.1 million** to **revamp the gym** and introduce a **sports room** in the hostel
- Awarded the **Hostel Organizational colour** for initiating and conceptualizing events catering to more than **250 students** to inculcate a sports culture in female students of the institute

## SOFTWARE SKILLS

- **Proficient** in C, C++, MATLAB, FLUENT and MS OFFICE
- **Operating Systems:** Linux, Windows XP, Vista, 7

## EXTRA CURRICULAR ACTIVITIES

### Technical

- **Gravity Groove (Jan, 2009):** Secured **3<sup>rd</sup>** position in Gravity Groove in a group of three members which was a roller coaster making competition in **Techfest IIT Bombay**, Asia’s largest technical festival.
- **Line Follower (Sep, 2008):** Assembled a car which is pre-programmed to follow a line using infrared sensors and operational amplifiers in a team of three
- **Sand king (Sep, 2009):** Built a robot which picks up sand, separates it from pebbles and transports to another location for an inter-hostel technical competition
- Awarded the **hostel technical special mention** (’09) for contributing to all the Inter-hostel technical competitions in the year and **mentoring** hostel freshmen in technical events

### Sports

- **Inter-IIT Sports Meet** (’07 and ’08): Represented IIT Bombay as a part of the girls Basketball team
- Won **Silver** medal in girls Basketball and the **Overall Girls Championship** in Inter IIT 2008, Madras

### Dramatics

- Anchored 30 minute **all-India TV broadcast** of a show on **National channel** News24 after winning a series of auditions conducted throughout the institute
- **Lead actress** in critically acclaimed plays at **Thespo** Theatre Festival (’09), Theatre festival IITB (’08 and ’10), Performing Arts Festival (PAF ’09) and Broadway play at Chaos IIM-A (’10)
- Awarded the Hostel **Cultural & PAF Colour** (’09) for leading the hostel to win the **Dramatics trophy**



**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**

**B.Tech.**  
**Male**  
**DOB: 02-06-1988**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	7.74
Intermediate/+2	CBSE	Delhi Public School, Patna	2006	72.80
Matriculation	CBSE	Delhi Public School, Patna	2004	90.60

## INDUSTRIAL INTERNSHIP

### Rourkela Steel Plant (SAIL)

[May-June 09]

- One month of rigorous Practical Training in **Steel Melting Shop (SMS 2)** department of **Rourkela Steel Plant (SAIL)**; one of the leading public sector steel companies in India
- Investigated design components for improvements resulting in increased yield and reduction in energy consumption in the **Continuous Casting Machine (CCM)**
- Did an in-depth **process control analysis** of CCM to minimize losses and increase overall efficiency

## KEY RESEARCH PROJECTS

### Non-destructive testing of steel pipes using giant magneto-resistive sensors

[July 10-ongoing]

- Real-time **Non-destructive testing** of steel pipes for surface and sub-surface defects, using giant magneto-resistive sensors by both eddy current testing (ECT) and Magnetic flux leakage (MFL)
- **Developed** a new probe with **high spatial resolution**, for detection of defects in high defect density region of Steel pipes
- Involved **assembling and instrumentation** of sensor arrays, capable of detecting spatial location of flaws within  $\mu\text{m}$  range even at higher feed rate of Steel

### Optimization of sintering temperature and time, reducing over-firing

- **Designed** a set of experiments to investigate optimized firing time for sintering green body
- Validated the optimization achieved by observing the microstructure and densification through various stages of sintering
- Achieved reduction in energy requirements and significant improvement in mechanical properties by limiting grain growth caused by over-firing

### Developing and analyzing the effectiveness of alumina mold for slip casting

[May 10- Ongoing]

- Put forth a method of preparation of alumina mold for slip casting, having high and uniform absorptivity
- Did a comparative analysis of advantages of using alumina mold over gypsum mold for contamination and surface finish of sintered products

### Drug Delivery using Iron oxide Nano particle

[Oct 09-Feb 10]

- **Synthesis and characterization** of drug by 'layer by layer' method using poly-Nipaam and nano iron-oxide particle
- Using hysteresis losses in super-paramagnetic material in varying magnetic field for controlled and **targeted drug delivery**

### Optimization of Drying of green body after slip casting

[May-Aug 10]

- Conducted a series of experiments and analyzed optimum drying condition for green-body formed by slip casting and effect of varying temperature and relative humidity
- Accomplished reduction of generic flaws developed in green body while drying, thus obtaining defect free sintered final product



## SEMINAR AND TECHNICAL PRESENTATIONS

### Self-cooling Can

- Analyzed the technological, economical and marketing aspect of self-cooling can and its over-all impact on energy scenario and environment
- Did a **model survey** by collecting data from all institute canteens to look into the consumption behaviors to perform a comparative study of energy consumption by cooling devices and self-cooling can as its substitute

### Review of various water-purification techniques and analyzing the role of material science

- Investigated the role of materials in various water treatment process used in the world, present trend and techniques of future, with special emphasis on reverse osmosis and various specialized membranes used for them
- Studied various synthesizing and processing techniques for modern membranes to bring about advanced features like foul-proofing, self-cleaning, etc.

### Metal-ceramic joining using brazing

- Reviewed various techniques and application for metal-ceramic joint with special emphasis on modern brazing techniques
- Compared different fillet material and their impact on joint efficiency

## TECHNICAL CONSULTING EXPERIENCE

### Prototyping Vitreous Bond Diamond Bruting wheel

[Feb 10-ongoing]

- Working on industry financed R&D project for the development of a viable **method of manufacturing** Vitreous bond Diamond Bruting wheel on large scale
- Worked on development of an optimized composition of glass and its ratio to diamond to achieve maximum longevity and working speed
- Employed extensive **characterization techniques** (SEM,EDX, XRD, TDS, AES, etc.) to investigate the nature of finished product for validating expected parameters

### Timed Gas-Regulator

[Feb-Jun 10]

- Developed a non-electrical timed gas regulator, using 3D modeling software like Solidworks
- Achieved significant reduction in consumption of cooking gas due to accidental over-cooking and providing more convenient cooking method

## Extracurricular activity

- Selected to participate in the **First Child summit** held in Delhi, headed by **Dr APJ Abdul Kalam**, the then president of India as a contingent leader of my state
- Led a team of 12 organizers as **coordinator** and successfully conducted "Casino", the most popular Informals event in Mood Indigo
- Made a wired machine for the national level competition Grip in Techfest 2008. Adjudged to be the best among the 1st year team
- Stood **2<sup>nd</sup>** in an **All India Level** painting competition organized by **Camlin**
- **Selected** for attending a National Art Workshop in New Delhi chaired by **M.F.Hussain**
- Awarded **1<sup>st</sup>** in impromptu speaking competition in intra-hostel competition
- Awarded **2<sup>nd</sup>** in impromptu drama competition at Freshizza, an institute level competition
- Awarded **2<sup>nd</sup>** in Hindi band competition at Freshizza and special mention for lead vocals



**Chemical Engineering**  
**Indian Institute of Technology Bombay**

**B.Tech.**  
**Male**  
**DOB: 07/01/1992**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.07

### SCHOLASTIC ACHIEVEMENTS

- Co-authored a **touch-read book**, "Noisy Numbers"; **published** in association with Mexus Education (P) Ltd. '11
- Completed **Minor degree** (additional 30 credits) in Department of Energy Science and Engineering '10 - '12
- Awarded Certificate of Merit (**top 1%** out of 40,000) in Indian National Chemistry Olympiad (INChO) '08
- Invited by Council of Scientific & Industrial Research to a 3-day **conference** for being in state's **top 25** in HSE '07

### POSITIONS OF RESPONSIBILITY

#### COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM May '12 – till date

*Working in tandem with 38 company coordinators for campus recruitment involving 400 firms and over 1600 students*

- Initiated dialogues with over **85** Indian and overseas prospective employers across **oil & chemical** sector
- Pioneered online student attendance management system to reduce human efforts and malpractices
- Formulated & implemented **placement policies** to maximize benefit of all stakeholders

#### INSTITUTE INTERNSHIP COORDINATOR, PRACTICAL TRAINING CELL May '11 – Apr '12

*Part of 24 member team responsible to streamline industrial and research internship process of over 800 students*

- Achieved **60% y-o-y augmentation** in selections & **30%** increment in number of chemical firms recruiting
- Collaborated with **10 international** firms & universities to accomplish **2-fold** increase in foreign internships
- Liaised with **15 first time recruiters** including BASF, Daikin, Hiyoshi, Forbes Marshall and Cadbury

#### DEBATING SECRETARY, CULTURAL COUNCIL, HOSTEL 4 May '10 – Apr '11

*Elected unanimously by over 550 hostel inmates to rejuvenate spirit among speaking enthusiasts*

- Initiated GD workshops and conducted **15 intra-hostel events**; Achieved 40% increase in participation
- Led 15 organizers to manage over 20 debates of IIT Bombay Parliamentary Debate 2010

### WORK EXPERIENCE

#### TATA CONSULTANCY SERVICES (TCS), PROCESS ENGINEERING GROUP, PUNE May '12 – Jul '12

*Management of spent adsorption media used for fluoride removal from water; Received letter of recommendation*

- Initiated **regeneration technology** to increase Fluoride Removal Capacity of Defluorider by **60%**
- Implemented **inactivation strategies** to lower fluoride content of spent media for safe environmental disposal
- Facilitated purification of 800L water per cartridge as compared to initial 500L at **minimal additional cost**

#### INDIAN INSTITUTE OF MANAGEMENT (IIM) – AHMEDABAD Dec '11

*Researched on Indian Railways freight operations of past 10 years with respect to changing economic scenario*

- Presented a **working paper**, "Commodity Specific Analysis of Rate Circulars Issued by Indian Railways"
- Analysed **Dynamic Pricing Policy** of coal, cement and steel transport after drop in their revenues in 2001-02

#### LIFE CYCLE ANALYSIS (LCA) OF BIODIESEL PLANT, BIOSYNTH Dec '10 – Mar '11

- Audited cradle-to-grave analysis to prove **50% reduction** in greenhouse gas emissions in biodiesel production
- Conducted **economic assessment** of lab & industrial scale manufacturing of biodiesel as compared to petrol

### KEY ACADEMIC PROJECT

#### QUANTITATIVE RISK ANALYSIS (QRA) OF CHEMICAL PLANT Mar '12

- Identified Hazards and estimated their risk and frequency by **Hazard Operability**, Event – Fault Tree technique
- Increased reliability leading to rise in plant's productivity by **5%** as an impact of proposed safety measures

### CO-CURRICULAR ACTIVITIES

<b>Speaking &amp; Literary Arts</b>	<ul style="list-style-type: none"> <li><b>Editor-in-Chief</b>, Hostel 4 Magazine; Facilitated <b>25%</b> increase in volume of articles '11</li> <li>Awarded <b>Special Mention</b> in Hindi creative writing General Championship '10</li> <li>Mentored debating sessions of a set of 30 freshmen, who won Fresher Debate '10</li> <li><b>Ranked 2 in State</b> level Debating Championship among 300 participants of 32 districts '07</li> <li>Represented IIT Bombay at IIT Delhi Parliamentary Debate, broke into quarter finals '10</li> </ul>
<b>Hospitality, Techfest '11</b>	<ul style="list-style-type: none"> <li>Contracted and partnered <b>7 food dealers</b> in Mumbai to bring outlets in Techfest Cafeteria</li> <li>Led a team of 25 organizers &amp; managed a <b>budget of INR 2 lac</b> to coordinate requirements</li> </ul>
<b>Finance Basics</b>	<ul style="list-style-type: none"> <li>Certified by NSE in 2 NCFM modules: <b>Financial Markets, Equity Derivatives</b> '11</li> </ul>



**Chemical Engineering**  
**Indian Institute of Technology Bombay**

**B.Tech.**  
**Male**  
**DOB: 07/01/1992**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.07
Intermediate/+2	National Open School	Kendriya Vidyalaya, Kota	2009	85.00
Matriculation	CBSE	Kendriya Vidyalaya, Kota	2007	95.40

### SCHOLASTIC ACHIEVEMENTS

- Completed **Minor Degree** (additional 30 credits) in Department of Energy Science and Engineering '12
- Awarded certificate of merit (**top 1%** out of 40,000) in Indian National Chemistry Olympiad, INChO '08
- Awarded CBSE merit certificate for being in **top 0.1%** in All India Secondary School Examination '07
- Invited to **conference** by Council of Scientific & Industrial Research for being in state's **top 25** in HSE '07

### WORK EXPERIENCE

**TATA RESEARCH DEVELOPMENT & DESIGN CENTER (TRDDC) – TCS, PUNE** May '12 – Jul '12

*Management of spent adsorption media used for fluoride removal from contaminated water*

- Established **60% increment** in Fluoride Removal Capacity of TATA fluoride removal cartridge
- Facilitated 800L of water purification per cartridge as compared to initial 500L at minimal additional cost
- Implemented & expedited inactivation strategies for safe environmental disposal of spent media
- Initiated **incorporation** of regeneration technology of adsorbent media via extensive literature survey
- Gained hands on experience of state of the art technology – X-ray Diffraction (XRD) Spectroscopy, Atomic Absorption Spectroscopy (AAS) and Ultraviolet Visible (UV) Spectroscopy

*Awarded certificate of appreciation by research team lead, TCS for contributions made in the project*

**INDIAN INSTITUTE OF MANAGEMENT (IIM) – AHMEDABAD** Dec '11

*Researched on Indian Railways freight operations of past 10 years with changing economic scenario*

- Presented a **working paper**, "Commodity Specific Analysis of Rate Circulars Issued by Indian Railways"
- Analyzed **Dynamic Pricing Policy** of coal, cement & steel transport after drop in their revenues in '01

### KEY ACADEMIC PROJECTS

**LIFE CYCLE ANALYSIS (LCA) OF BIODIESEL, BIOSYNTH** Dec '10 – Mar '11

*Project BioSynth is a student's initiative of installing a self-sustained biodiesel plant in IIT Bombay*

- Audited **cradle-to-grave analysis** of air emissions to carry out **LCA** of biodiesel manufacturing process
- Conducted **economic assessment** of lab & industrial scale production of biodiesel as compared to petrol
- Proved environmental worth of biodiesel by establishing **50% reduction** in greenhouse gas emissions

**QUANTITATIVE RISK ANALYSIS (QRA)** Feb '12

*Case Study: Improving productivity of BDK (Benzyl Dimethyl Ketyl) plant using QRA*

- Identified hazardous incidents and estimated their frequency, risk and consequences using Hazard Operability (HAZOP), Event & Fault tree techniques
- Proposed modifications in the plant lay-out during unscheduled maintenance operations
- Increased reliability leading to rise in plant's productivity by 5% as impact of proposed safety measures

**CHEMICAL PLANT DESIGN FOR PRODUCTION OF METHANOL** Sep '12

- Designed a production plant to produce 10000 tonnes per annum of Methanol with 99% purity
- Examined in plant's economic viability in terms of raw material and energy resources
- Conducted parametric studies using **ASPEN plus**; Evaluated conditions for optimal production

**3-D SIMULATION OF MOLECULAR DYNAMICS** Mar '11

- Simulated the three dimensional Lennard-Jones system in micro canonical ensemble using **Scilab**
- Estimated diffusion coefficient of 1-dimensional random walker by metropolis **Monte Carlo algorithm**

## TECHNICAL TRAINING

### CHAMBAL FERTILISERS & CHEMICALS LTD., KOTA

Jul '10

- Examined Process & Instrumentation diagrams of ammonia production plant and studied piping network
- Analyzed basic operation of Desulphurization, Reforming, Gas purification & Ammonia synthesis units

### RASHTRIYA CHEMICALS & FERTILISERS LTD., MUMBAI

Mar '10

- Studied Double Contact Double Absorption technology used for industrial Sulfuric Acid production
- Performed material balances and parametrically analyzed factors affecting governing reaction

## POSITIONS OF RESPONSIBILITY

### COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM

May'12 – till date

*Working in tandem with 38 company coordinators for campus recruitment involving 400 firms & 1600+ students*

- Initiated dialogues with over **85 Indian and overseas companies** to promote institute brand
- Negotiated offers to maximize benefit to all stakeholders; Formulated & implemented recruitment **policy**
- Identified **prospective employers** across FMCG, Specialty chemicals & oil sector
- Pioneered new student attendance management system to diminish human effort and malpractices

### INSTITUTE INTERNSHIP COORDINATOR, PRACTICAL TRAINING CELL

May '11 – Apr '12

*Part of a 24 member team responsible to streamline industrial & research internship process of over 800 students*

- Accomplished **30% y-o-y augmentation** in number of core chemical industries visiting campus
- Achieved a **60% increase** in number of internships and **INR 30 lac stipend** inflow by promoting company engagements for chemical engineering department
- Fostered and sustained long term association with over **50** companies and universities
- Established internship **collaboration** with MITACS Globalink & University of Michigan to provide worldwide research experience; Achieved **100% y-o-y increase** in foreign research internships
- Introduced resume editing as a key **change** in **Internship Policy** based on comprehensive student and company feedback benefiting more than **100** students

### DEBATING SECRETARY, CULTURAL COUNCIL, HOSTEL 4

May '10 – Apr '11

*Elected unanimously by over 500 students to rejuvenate spirit among speaking enthusiasts*

- Initiated GD workshops & conducted **15 intra-hostel events**; Achieved **40%** increase in participation
- Led 15 organizers to conduct over 20 debates in IIT Bombay Parliamentary Debate 2010

## MINOR DEGREE IN DEPARTMENT OF ENERGY SCIENCE & ENGINEERING

<b>Courses</b>	<ul style="list-style-type: none"> <li>• Introduction to renewable technology, Energy resources &amp; economics, Fuel cells, Energy management and Hydrogen energy</li> </ul>
<b>Seminars</b>	<ul style="list-style-type: none"> <li>• Moving towards hydrogen economy: short, medium and long term transitions '11</li> <li>• Waste generation at IIT Bombay: A quantitative analysis '10</li> </ul>

## CO-CURRICULAR ACTIVITIES

<b>Hospitality, Techfest'11</b>	<ul style="list-style-type: none"> <li>• Contracted &amp; partnered <b>5 food dealers</b> in Mumbai to bring outlets in Techfest cafeteria</li> <li>• Led a team of 25 organizers &amp; managed a budget of <b>INR 2 lac</b> to coordinate requirements</li> </ul>
<b>Creative Writing</b>	<ul style="list-style-type: none"> <li>• <b>Conceptualized</b> and co-authored an interactive touch-read book "Noisy Numbers"; Book published and well received in market reaching to over <b>2000</b> children '11</li> <li>• <b>Editor-in-Chief</b>, Hostel 4 newsletter; Facilitated increase in volume of articles by <b>40%</b> '11</li> <li>• Awarded <b>Special Mention</b> in Hindi creative writing General Championship '10</li> </ul>
<b>On Stage Performer</b>	<ul style="list-style-type: none"> <li>• <b>1<sup>st</sup> position</b> in street play competition at cultural festival O2 fest, Bhavan's College '10</li> <li>• <b>Ranked 2</b> (among 300) in state level debating championship '07</li> <li>• Panelist, Adjudicator Team, IIT Bombay Parliamentary Debate '11</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Task Manager, Ekjaa Foundation, a non-profit organization '12</li> <li>• Launched books and toys collection project for assisting an NGO, RamKrishna Sarda Samiti</li> </ul>



**Chemical Engineering**  
**Indian Institute of Technology Bombay**

**B.Tech.**  
**Male**  
**DOB: 07/01/1992**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.07
Intermediate/+2	National Open School	Kendriya Vidyalaya, Kota	2009	85.00
Matriculation	CBSE	Kendriya Vidyalaya, Kota	2007	95.40

### PROFILE SUMMARY

- Diverse industrial and academic work experience in technical, non-technical & innovation sectors
- Extensive experience in dealing with corporate personals with wide exposure to recruitment roles
- Committed team player, active in bringing about change and making impact across campus wide roles

### SCHOLASTIC ACHIEVEMENTS

- Completed **Minor Degree** (additional 30 credits) in Department of Energy Science & Engineering '12
- Awarded Certificate of Merit (**top 1%** out of 40,000) in Indian National Chemistry Olympiad (INChO) '08
- Awarded CBSE Merit Certificate for being in **top 0.1%** in All India Secondary School Examination '07
- Invited by Council of Scientific & Industrial Research to a **conference** for being in state's **top 25** in HSE'07

### POSITIONS OF RESPONSIBILITY

#### **COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM**

May '12 – till date

*Working in tandem with 38 company coordinators for campus recruitment involving 400 firms & 1600+ students*

- Initiated dialogues with over **85** Indian and overseas companies to promote institute brand
- Negotiated offers to maximize benefit to all stakeholders; Strategizing to increase recruiting companies
- Identified **prospective employers** across FMCG, specialty chemicals & oil sector
- Formulated & implemented **recruitment policy**; Arranged pre-placement talks and case workshops
- Pioneered online student attendance management system to reduce human effort and malpractices

#### **INSTITUTE INTERNSHIP COORDINATOR, PRACTICAL TRAINING CELL**

May '11 – Apr '12

*Part of a 24 member team responsible to streamline industrial & research internship process of over 800 students*

- Achieved **60% increase** in number of internships and **INR 30 lac** stipend inflow by promoting company engagements for chemical engineering department
- Accomplished **30% y-o-y augmentation** in number of core chemical industries visiting campus
- Fostered and sustained long term association with over **50** companies and universities

#### *New Initiatives:*

- Established internship **collaboration** with MITACS Globalink (Canada) & University of Michigan to provide world-class research experience; Achieved **2-fold increase** in foreign research internships
- Liaised with **12 first time recruiters** including BASF, Forbes Marshall, Daikin, Hiyoshi and Cadbury
- Introduced resume editing as a key **change in internship policy** based on comprehensive student and company feedback benefiting more than **100** students

#### **DEBATING SECRETARY, CULTURAL COUNCIL, HOSTEL 4**

May '10 – Apr '11

*Elected unanimously by over 500 students to rejuvenate spirit among Speaking enthusiasts*

- Initiated GD workshops & conducted **15 intra-hostel events**; Achieved **40%** increase in participation
- Led 15 organizers to conduct over 20 debates in IIT Bombay Parliamentary Debate 2010
- Mentored debating sessions of a set of 30 freshmen, who won Fresher debate **after 3 years**

#### **HOSPITALITY COORDINATOR, TECHFEST 2011**

Aug '10 – Mar '11

- Contracted and partnered **7 food dealers** in Mumbai to bring their outlets in Techfest cafeteria
- Led a team of 25 organizers and managed a **budget of INR 2 lac** to coordinate food requirements

## WORK EXPERIENCE

### TATA CONSULTANCY SERVICES, PROCESS ENGINEERING GROUP, PUNE

May '12 – Jul '12

*Management of spent adsorption media used for fluoride removal from contaminated water*

- Established **60% increment** in Fluoride Removal Capacity of TATA fluoride removal cartridge
- Facilitated purification of 800 L of water per cartridge as compared to initial 500 L at minimal extra cost
- Implemented & expedited inactivation strategies for safe environmental disposal of spent media
- Initiated **incorporation** of regeneration technology of adsorbent media via extensive literature survey

*Awarded certificate of appreciation by research team lead, TCS for contributions made in the project*

### INDIAN INSTITUTE OF MANAGEMENT (IIM) – AHMEDABAD

Dec '11

*Researched on Indian Railways Freight Operations of past 10 years with changing economic scenario*

- Presented a **working paper**, "Commodity Specific Analysis of Rate Circulars Issued by Indian Railways"
- Analyzed **Dynamic Pricing Policy** of coal, cement & steel transport after drop in their revenues in '01
- Examined commodity & route classification, incentive schemes and wharfage & demurrage charges

### MEXUS EDUCATION (P) LTD., MUMBAI

May '11 – Jul '11

*Created futuristic innovative education models based on affordable and engaging technology*

- Conceptualized and co-authored an **interactive touch-read** book "Noisy Numbers"; Book **published** and well received in market reaching to over **2000** children across Mumbai
- Formalized and structured a new initiative, "MATHEMATICA"; Authored question banks pertaining to practical application of mathematics; Orchestrated evaluation scheme and post examination report

### PROJECT BIOSYNTH – IIT BOMBAY

Dec '10 – Mar '11

*Life Cycle Assessment (LCA) of a self-sustained biodiesel plant in IIT Bombay*

- Audited **cradle-to-grave** analysis of air emissions to carry out LCA of biodiesel manufacturing process
- Conducted economic assessment of lab & industrial scale production of biodiesel as compared to petrol
- Proved environmental worth of biodiesel by establishing **50% reduction** in greenhouse gas emissions

## KEY ACADEMIC PROJECTS

### QUANTITATIVE RISK ASSESSMENT (QRA)

Feb '12

*Case Study: Improving productivity of BDK (Benzyl Dimethyl Ketyl) plant using QRA*

- Identified hazardous incidents and estimated their frequency, risk and consequences by **Hazard Operability** (HAZOP), Event & Fault Tree techniques
- Suggested modifications in the plant lay-out during unscheduled maintenance operations
- Increased reliability leading to rise in plant's productivity by **5%** as impact of proposed safety measures

### PLANT DESIGN FOR PRODUCTION OF METHANOL

Sep '12

- Designed a production plant to produce 10000 tonnes per annum of methanol with 99% purity
- Examined in detail plant's **economic viability** in terms of raw material and energy resources
- Conducted parametric studies using **ASPEN Plus**; Evaluated conditions for optimal production

## CO-CURRICULAR ACTIVITIES

<b>Speaking &amp; Literary Arts</b>	• <b>Editor-in-Chief</b> , Hostel 4 Magazine; Facilitated 25% increase in volume of articles	'11
	• Awarded <b>Special Mention</b> in Hindi Creative Writing General Championship	'10
	• Mentored debating sessions of a set of 30 freshmen, who won Fresher Debate	'10
	• <b>Ranked 2</b> (among over 300) in <b>state</b> level Debating Championship	'07
	• Represented IIT Bombay at IIT Delhi Parliamentary Debate, broke into quarter finals	'10
<b>Social</b>	• Task Manager, Ekjaa Foundation, a non-profit organization	'12
	• Launched book and toys collection project for assisting an NGO, Ram Krishna Sarda Samiti	
<b>Finance Basics</b>	• Certified by National Stock Exchange in 2 NCFM modules: <b>Financial Markets, Equity Derivatives</b>	'11





**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**

**B.Tech.**  
**Male**  
**DOB: 04/02/1992**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.03

*Pursuing Honors in Mechanical Engineering Department and Minor in the Department of Physics*

## SCHOLASTIC ACHIEVEMENTS

- Awarded National Talent Search Examination (**NTSE**) Scholarship by NCERT [‘07]
- Awarded **CBSE Merit Scholarship** granted to 350 students across the nation for Professional Studies [‘09]

## PROFESSIONAL EXPERIENCE

<b>WHIRLPOOL INDIA</b> <i>Global Technology &amp; Engineering Centre</i> (May’12-Jul’12)	<i>Modeling of Thermoelectric Module</i> <ul style="list-style-type: none"><li>Modeled a portable refrigerator based on thermoelectric technology using MATLAB</li><li>Arrived at the <b>optimum temperature-energy combination</b> by analyzing over 50 variables</li><li>Voluntarily designed an experiment validating the simulation and achieved a temperature decrease of 10°C for low capacity refrigeration conditions; <b>85% concurrence</b> with model results</li></ul> <i>Mathematical Simulation of Ice Formation</i> <ul style="list-style-type: none"><li>Developed a <b>mathematical framework</b> to estimate the time taken for ice formation</li><li>Suggested further modifications in the code to assess the efficacy of a generic cooling process</li></ul>
<b>MICO BOSCH Ltd.</b> <i>Automotive Technology Division</i> (May’11-Jun’11)	<ul style="list-style-type: none"><li>Systematized the working of Quarantine area by compiling a <b>graphic training module</b></li><li>Developed an excel-based inventory management software for more than 1000 parts</li><li>Implemented <b>correction methods</b> on the assembly line after a detailed investigation of incorrect part types; resulted in a 10% decrease in the number of defective pumps produced</li></ul>

## POSITIONS OF RESPONSIBILITY

<b>INTERNSHIP COORDINATOR</b> (‘11-‘12)	<ul style="list-style-type: none"><li>Revamped the Internship Policy based on feedback from students and recruiters to cater the demands of more than 700 students and <b>over 200 companies &amp; universities</b></li><li>Coordinated with HR teams of over <b>100 companies &amp; 25 universities</b>; attained a <b>30% y-o-y</b> growth in the number of recruiters for mechanical department</li><li>Organized <b>first ever</b> resume &amp; research scholarship sessions for 2<sup>nd</sup> and 3<sup>rd</sup> year students</li></ul>
<b>INSTITUTE STUDENT MENTOR</b> (‘12-Present)	<ul style="list-style-type: none"><li>Selected on the basis of balanced overall performance and peer recommendations</li><li>Formed <b>self-help groups</b> among the mentees aimed at benefitting academically weak students</li></ul>
<b>HOSTEL DRAMATICS SECRETARY</b> (‘10-‘11)	<ul style="list-style-type: none"><li>Led the hostel dramatics team in the <b>winning act</b> at Performing Arts Festival (PAF) – 2011</li><li>Organized innovative competitions and workshops to promote new talent</li><li>Awarded Hostel PAF <b>Special Mention</b> for excellent organization (16 out of 400 students)</li></ul>

## ACADEMIC PROJECTS

<b>CRYOCOOLER VALVE DEVELOPMENT</b> (Oct’11-Present)	<ul style="list-style-type: none"><li>Designed a valve using an innovative linear electromagnetic actuation mechanism</li><li>Developed a <b>mathematical model</b> for the system; performed stress analysis using ANSYS</li><li>Currently <b>fabricating a prototype</b> to produce a pressure wave using high inlet pressures</li></ul>
<b>NUCLEAR REACTOR COOLING SYSTEM</b> (Aug’12-Present)	<i>Undergraduate Research Project : Affiliated to BARC</i> <ul style="list-style-type: none"><li>Performing <b>dynamic analysis</b> of jet cooling scheme for improved response to nuclear hazards</li><li>Researching flow visualization techniques for a comprehensive understanding of the process</li></ul>

## EXTRA-CURRICULAR ACHIEVEMENTS

- Secured **2<sup>nd</sup> position** in Street Play Competition held at IIM-A cultural festival [‘11]
- Lead voice over** artist in the winning performance at PAF which bagged 9 out of 10 trophies [‘11]
- Mentored students in dramatics; street play act awarded special mention at Freshmen Culturals [‘10]
- Awarded as the **Best Student Journalist** by **national daily** ‘Dainik Bhaskar’; 1 of 6 students to interview the first woman speaker of Rajasthan State Assembly [‘07]



**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**

**B.Tech.**  
**Male**  
**DOB: 04/02/1992**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.03
Intermediate/+2	C.B.S.E.	B.V.B. Vidyashram, Jaipur	2009	94.60
Matriculation	C.B.S.E.	B.V.B. Vidyashram, Jaipur	2007	93.20

*Pursuing Honors in Thermal & Fluid Engineering and Minor in the Department of Physics*

## SCHOLASTIC ACHIEVEMENTS

- Awarded National Talent Search Examination (**NTSE**) Scholarship by NCERT [‘07]
- Awarded **CBSE Merit Scholarship** granted to 350 students across the nation [‘09]
- Among top 230 students nationwide; represented state in Indian Informatics Olympiad [‘09]

## PROFESSIONAL EXPERIENCE

WHIRLPOOL GLOBAL TECHNOLOGY & ENGINEERING CENTRE, PUNE [May’12 – Jul ‘12]

### *Modeling of Thermoelectric Module*

- Modeled a portable refrigerator based on thermoelectric technology using SIMULINK software
- Arrived at the **optimum temperature-energy combination** by analyzing over 50 variables for variable initial conditions of the system
- Voluntarily designed an experiment validating the simulation and achieved a temperature decrease of 10°C for low capacity refrigeration conditions; **85% concurrence** with model results

### *Mathematical Simulation of Ice Formation*

- Developed a **mathematical framework** to estimate the time taken for ice formation using MATLAB
- Suggested further modifications in the algorithm to assess the efficacy of a generic cooling process and to align it with the thermoelectric model

MICO BOSCH LTD., AUTOMOTIVE TECHNOLOGY DIVISION, JAIPUR [May’11– Jun ‘11]

- Systematized the working of Quarantine area by compiling a detailed **graphic training module**
- Developed an excel-based inventory management software for more than 1000 part types to monitor the movement of parts in Quarantine Area
- Implemented **correction methods** on the assembly line through a detailed investigation of incorrect shim ring and spring types in defective pumps
- Facilitated the rectification of errors in the shim ring selection machine by formulating the governing mathematical expression after examining its working mechanism

## ACADEMIC PROJECTS

VALVE DEVELOPMENT: G-M CRYOCOOLERS [Oct ‘11 – Present]

- Designed a valve for achieving consumer-desired pressure wave using an innovative linear **electromagnetic actuation mechanism**; recommended for use in conjunction with MRI machine
- Developed the mathematical blueprint and used it for stress analysis of the design using ANSYS
- Currently **fabricating a prototype** for use with high inlet pressures of 5 and 25 bar

NUCLEAR REACTOR COOLING [Aug ‘12 – Present]

### *Undergraduate Thesis Project: Affiliated to BARC*

- Performing a dynamic analysis of **jet flow cooling system** on a set of more than 10 parameters using ANSYS for improved response to nuclear hazards
- Researching about various **flow visualization** techniques for the jet impingement process
- Proposed to develop simulation analysis for two phase countercurrent steam-water jet flow

## LASER BRAZING

[Aug '11 – Nov '11]

- Characterized residual stresses and strength of a metal butt joint by simulation in ABAQUS software
- Examined variations of power and feed rate by conducting an experiment using filler material, Nd-YAG 100W Fiber Laser and a specifically designed fixture
- Recommended techniques to increase bond-strength based on a stress test of experimental product

## POSITIONS OF RESPONSIBILITY

### INSTITUTE STUDENT MENTOR

[Jul '12 – Present]

*Selected on the basis of balanced overall performance and peer recommendations*

- Currently mentoring and counseling 15 freshmen to ensure their smooth transition into life at IIT Bombay and advising them on their academic and extra-curricular endeavors
- Formed **self-help groups** among the mentees aimed at benefitting academically weak students

### INTERNSHIP COORDINATOR, PRACTICAL TRAINING CELL

[ '11-'12]

*Part of a 25-member team responsible for building and sustaining industrial and university relations*

- Revamped the Internship Policy based on feedback from students and recruiters to cater the demands of more than 700 students and over **200 companies** & universities
- Coordinated with HR teams of over 100 companies & 25 universities; attained a **30% y-o-y** growth in the number of recruiters for mechanical department
- Organized **first ever** resume workshop & research scholarship sessions for 2<sup>nd</sup> and 3<sup>rd</sup> year students

### HOSTEL DRAMATICS SECRETARY

[ '10-'11]

*Responsible for coordinating hostel activities and boosting interest in dramatics*

- Led the hostel dramatics team in the **winning act** at Performing Arts Festival (PAF) – 2011
- Successfully coordinated hostel participation in two general championships; promoted new talent by organizing innovative activities involving participation of more than 30 students per event
- Awarded Hostel PAF **Special Mention** for exceptional organizational skills, innovative leadership and effective resource mobilization

## PROGRAMMING/SOFTWARE SKILLS

- **Programming:**
  - Made a registration interface & used data proofing for fingerprint ID in C++ [ '09 Course Project]
  - Created a comprehensive Student Database System using OOP [ '08 Project]
- **Software:** MATLAB, Scilab, Solidworks, ANSYS, AutoCAD, ABAQUS, Microsoft Office
- **Web Designing:** HTML, XHTML, CSS, Microsoft Expression Suite

## EXTRA-CURRICULAR ACHIEVEMENTS

### DRAMATICS

- Secured **2<sup>nd</sup> position** in Street Play Competition held at IIM-A cultural festival [ '11]
- **Lead voice over** artist in the winning performance at PAF; bagged 9 out of 10 trophies [ '11]
- Performed at IIT-B Annual Production during Theatre Festival & Sophomore Production [ '11]
- Mentored theatre acts; street play show awarded special mention at Freshmen Culturals [ '10]
- Actively collaborated with institute dramatics team to prepare for inter-collegiate events

### MISCELLANEOUS ACTIVITIES

- Awarded as the **Best Student Journalist** by **national daily** 'Dainik Bhaskar'; 1 of 6 students to interview the first woman speaker of Rajasthan State Assembly [ '07]
- Interview Coordinator in first week of placements for leading campus recruiters [ '11]
- Designed a remote control car using Radio Frequency circuit to navigate an obstacle course [ '09]



**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**

**B.Tech.**  
**Male**  
**DOB: 25/07/1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.07

- Pursuing Honors in **Industrial Engineering and Operations Research**
- Additional Courses: Quantitative Methods in Project Management, Introduction to Stochastic Processes

### PROFESSIONAL EXPERIENCE

**ASPIRE ADVISORS PRIVATE LIMITED** | *Strategy and Management Consulting, Mumbai* [May '12 – Jun '12]

- Analysed procurement costs of 4 hospitals citing **20%** overall differences; developed a **sales pitch** to curtail expenses
- Studied pricing, distribution and innovation strategies and suggested a 4-step **framework for penetration in Indian rural markets** for FMCG & consumer durables sectors
- Estimated the district-wise **2-wheeler lubricant market potential** for the year **2012** comparing rural with urban markets

**KOTAK MAHINDRA BANK** | *Treasury Head Office, Mumbai* [Jun '11]

- Analysed customer behaviour based on client slippage data computed from Forex-live report '10
- Developed **VBA macros** for **customized calculation** of spot/forwards volume, no. of deals, remittances & net profit

### SOCIAL DEVELOPMENT PROJECTS

**CURRENT STATUS OF BIOGAS PLANTS IN WADA TALUKA, THANE DISTRICT** | *CTARA, IIT Bombay* [May '12 – Jun '12]

- Surveyed 102 plants** to understand essentials of a successful plant; recommended improvements in design & usage
- Performed **regression analysis** to ascertain dependence of life expectancy on parameters like plant size, feed & cost

**EKJAA** | *Not-for-Profit Organization, Mumbai* [Dec '11]

- Surveyed 15 industry aiding NGOs in Mumbai; got acquainted with & improvised their work model
- Familiarized the 3 shortlisted NGOs with Ekjaa '**Donate and Lend**' model for accessing **easy credit**

### ACADEMIC PROJECTS

**RISK MODELLING OF SUPPLY CHAIN CAPABILITIES** | *On-going Undergraduate Thesis* [Jul '12–present]

- Identified the key supply chain metrics and the major obstacles/risks involved in achieving strategic fit
- Constructing a **quantitative model** on lines of SCOR model which aims to relate risks with supply chain capabilities

### LEADERSHIP ROLES

**CONVENER, SAAZ** | *The Indian Music Club of IIT Bombay, 500+ members, 20 events annually* [Jul '11 – Apr '12]

- Led a 20 member team to organize Surbahaar & Swarsandhya (Annual concerts for 2000+ audience each)
  - Handled a **budget of INR 1.5 lakhs**, auditions for 300, rehearsals for 150 performers, event publicity & logistics
  - Revamped the format by changing the venue, budget allocation & playlist selection; increased the footfall by **30%**
- Initiated & conducted **the first 'Institute Classical & Folk Week'** in collaboration with 5 institute secretaries
- Revitalized the club's publicity by pioneering **the first Institute music website** ([www.musicitiitb.com](http://www.musicitiitb.com))
- Conceptualized a **new event format Swarmilaap** (biweekly informal jam sessions attracting 100+ enthusiasts)

**MUSIC SECRETARY** | *Hostel 6 Cultural Council, IIT Bombay* [Jul '10 – Apr '11]

- Facilitated easy and bulk purchase of music instruments at **20% discount** for inmates & hostel music room
- Organised **the first 'On a roll'** in the hostel encouraging free jamming and guitar & drums workshops for beginners
- Conferred with **Special Mention** (4 out of 500) award by hostel for dedication in the field of organization

### AWARDS & EXTRA-CURRICULARS

**MUSIC** (*Self- taught keyboard & drums and learnt violin after joining IIT*)

- Awarded **PAF Colour, Special Mention & 'Gem of the PAF'** for composing and playing original compositions [ '11, '12]
- Opened concert** for *Suraj Jagan* and *Prem Joshua Band* at **Institute Cultural Night**, IIT Bombay [ '11]
- Music direction** of institute stage plays including 'Hawaalat' (3<sup>rd</sup> at Mood Indigo; showcased at **NCPA**) [ '11]
- Mentored** freshmen bands and **judged** IITB contingent entries for college fests

### MISCELLANEOUS

- Election officer**, Hostel 6 Election Committee; framed rules, conducted elections for 40 candidates [ '12]
- Contingent Leader**, **IITB** for UMANG, N.M. College Annual Cultural Festival, Mumbai [ '11]
- Member of the **2<sup>nd</sup>** position winning **dance** team of 'Mai Maati', Performing Arts Festival [ '10]
- Voiceovers**, Movie '7<sup>th</sup> time lucky', finalist at Director's Cut, MOOD INDIGO, IIT Bombay [ '10]
- Interested in sketching, movie-making, photography, cycling & travelling

## Education

Year	Degree/ Certificate	Institute/ School, City	CGPA/ %
2003-07	B.Tech. Chemical Engineering	Indian Institute of Technology, Delhi	<b>8.743 / 10</b>
2002	All India Senior School Certificate Exam	Delhi Public School, R.K. Puram, Delhi	<b>93 %</b>
2000	All India Senior School Exam	Delhi Public School, R.K. Puram, Delhi	<b>95 %</b>

- **Scholastic Achievements**
  - **Department Rank 4** (out of 47 students) at IIT Delhi, Chemical Engineering (2006)
  - Received **Gold Medal** from school for consistent academic excellence over 7 years (2002)
  - **Topped DPS RK Puram in Class X** and awarded the **Delhi Sanskrit Academy Scholarship** (2001)
  - Awarded **Junior Science Talent Scholarship** by Delhi Government (2000)
- **Exchange Programme** **June-Dec 2005**
  - **1 of 2 students selected** (from a batch of 500) for a one semester bilateral exchange program to **Ecole des mines de Nantes**, one of the top engineering schools in **France**.
  - **Passed level B1+ (European reference) in French**, learnt to speak, read and write French and topped the language course in a class of 20 exchange students.
  - Gained immensely from the cultural and travel experiences, was motivated to pursue my Summer Internship in France to put my language skills to practice.
- **Key Academic Project Undertaken**
  - Selected for the **Summer Undergraduate Research Award Project (2005)**, an annual project awarded to 6 out of 80 meritorious students from the Chemical Engg. Department, IIT Delhi, with government funding.
  - Worked in a team of 2 to achieve **99% separation of Penta Chloro Phenol from water using liquid-liquid extraction** as against 50% achieved in conventional methods.
  - Stood **4th in a technical paper presentation** on the same project during TRYST, the IIT Delhi's technical festival.
  - Co-authored a paper on the same subject which is awaiting publication.
  - Currently working on Polymer Electrolyte Membrane Fuel Cells, an alternative source of energy (B.Tech Project).

## Summer Internships

<ul style="list-style-type: none"> <li>• <b>Ecole Nationale Supérieure des Mines</b> <b>St. Etienne, France</b> <span style="float: right;"><b>May-June 2006</b></span> <ul style="list-style-type: none"> <li>➤ Assessed heat losses occurring in a reaction calorimeter used as a vent sizing device, and then developed a modified experimental set up in order to measure and account for these losses.</li> <li>➤ Proved with the help of experiments and modeling that the heat losses were 60% smaller than what had been initially assumed.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Institut National de l'Environnement Industriel et des Risques (INERIS)</b> <b>Creil, France</b> <span style="float: right;"><b>June-July 2006</b></span> <ul style="list-style-type: none"> <li>➤ Developed and tested a model which served as a predictor of a runaway reaction.</li> <li>➤ Continuing work through correspondence, <i>working towards a joint publication in an international journal</i> on the efficiency of the above predictor used during resin production.</li> </ul> </li> </ul>

## Extra-Curricular Activities and Positions of Responsibility

- **Dramatics**
    - Participated in the **Institute English Play** for two successive years in the annual inter college cultural festival Rendezvous. (2003, 2004)
    - Was a part of institute team which stood **3rd in the English play, Rendezvous** (2004)
    - Active participant in inter hostel English dramatics, received appreciation from judges for performance in the Inter hostel English play (2004)
  - **Quizzing**
    - **Hostel representative (2004-2005)**, Quizzing club, IIT Delhi, club awarded Best Club of the Year.
    - Quiz master and organizer of two inter-hostel quizzing events during the year.
    - Was **Publicity Co-ordinator** for *Nihilanth*, the inter IIT-IIM Quizzing festival hosted by IIT Delhi and sponsored by GE.
- Other interests:- Avid fiction reader, love traveling and learning new languages.**

## Education

Year	Degree/ Certificate	Institute/ School, City	Grade
2003-07	B.Tech. in Electrical Engineering	Indian Institute of Technology, Delhi	8.36/10
2003	All India Senior School Certificate Exam	Delhi Public School, R.K. Puram, Delhi	92.0 %
2001	All India Senior School Exam	Delhi Public School, R.K. Puram, Delhi	89.2%

### Scholastic Achievements

- **Two research papers** in the field of wireless communication accepted for poster session, at the **EuCAP 2006** (European Conference on Antennas and Propagation) and the **SAME 2006** (Sophia-Antipolis forum for MicroElectronics) respectively, both held at Nice (France). The paper accepted by EuCAP will be published in the **IEEE Xplore (magazine of the Institute of Electrical and Electronics Engineers)**.
- **Merit certificate** for securing **position amongst the top 7%** of all first year undergraduate students at the end of my first semester at IIT Delhi. (2003)
- **All India Rank 157** in the IIT Joint Entrance Examination (2003) and **Rank 9** in the Delhi College of Engineering Entrance Exam. (2003)
- **Gold Medal for Academic Excellence** for consistently good academic performance through 9 years of school. (2003)
- **Topped the CBSE class X French exam** with a **score of 99%**. (2001)
- **Rank 9 in Elementary Mathematics Olympiad** (Delhi Region), held by the National Board for Higher Mathematics, Govt. of India. (1999)

## Exchange Programme

- **INSA Lyon (National Institute of Applied Sciences, Lyons, France)** **2005-06 (Third Year)**
  - **One of 14 students selected** for the foreign exchange programme **from my batch (of about 500 students)**.
  - Promoted Indian music during my stay. **Helped to organize the 'Soirée de l'Inde'** (lit. Indian Evening) and **performed a raga alongside other Indian classical musicians at Lyons. (2005)**
  - Invaluable exposure to different cultures, through a **large student exchange community of more than 200 students from about 25-30 countries**. Traveled extensively in France and in Europe- **Turkey, Poland, Sweden, Denmark** and several countries in western Europe.
  - Participated in adventure sports- **kayaking** and **rock-climbing** and took a course on **Salsa**.

## Academic Projects

- Design and implementation of an Ultra Wideband wireless receiver. Product targeted for completion by next year, aimed at the consumer electronics market. **(B.Tech. Project with Virtual Wire Technologies, a startup of IITD Electrical Engineering alumni, 2006-07)**
- Study of non-linearity in a SIMO-OFDM system. Worked in co-ordination with a **Chinese graduate student. (INSA Lyon, February-March 2006)**
- Micromouse Competition: designed a specialized robot as part of 2 member team. **(IIT Bombay, January 2005)**

## Summer Internships

- **INRIA-ARES and France Telecom, Lyons, France** **April-June 2006**
  - Worked on a joint research project between **INRIA** (National Institute for Research in Informatics and Control Engineering) and **France Telecom**, for the development of a multi-antenna and multi-mode wireless receiver. **All the work, documentation and meetings were carried out in French.**
  - Suggested designs for automatic gain control unit, and smart antenna algorithms. These designs will be incorporated in the final product, which is targeted for completion in eighteen months.
- **CARE (Centre for Applied Research in Electronics), IIT Delhi** **May-August 2005**
  - Trained as part of a large team developing a QPSK modem for the **Indian Navy**.
  - Developed a software simulator to model the communication system involved (i.e. the undersea channel), and ported it to an underwater tank to carry out physical tests.



## Extra Curricular Activities, Awards and Positions of Responsibility

- Served as the *Secretary, Students' Council, Delhi Public School R. K. Puram (2003)*, one of the largest and most prestigious schools in Delhi.
  - *Organized and conducted meetings* of representatives from various batches, as well as the school faculty, to discuss key issues.
  - *Compered events and functions of importance* organized by the school.
- **Music**
  - *Trained in Indian classical (vocal) music.* (1996-98, obtained the prathma; 2004-05)
  - *Represented hostel* in almost all inter-hostel music competitions and *represented IIT Delhi* in inter-college music competitions. *Won prizes at group, duet as well as solo competitions.* (2003-05)
  - *Awarded 'The most enthusiastic fresher in the Music Club' by the BRCA* (Board for Recreational and Cultural Activities, IIT Delhi) at the end of my first year, for *active participation and help in organizing the Club's activities.*
- **Languages**
  - An enthusiast of foreign languages and cultures.
  - Languages studied - *French (passed the Advanced Level (C1) Exam), Russian (passed the Beginners Level Exam), Swedish (self-taught, written knowledge of the language).*
  - *Teaching Hindi* to the *francophonic exchange students* (using French as the medium of instruction) at IIT Delhi in the current academic year. (2006-07)
- **Other interests**
  - Enjoy *dramatics*. Taken part as central character in *inter-hostel Hindi Play (2003) and inter-college English Play 2004 (3<sup>rd</sup> position)*
  - Fond of *creative writing*. Authored articles in the college magazine, Campus Rumpus. *Subeditor of 'Life Spectrum'*, Biology magazine of Delhi Public School, R. K. Puram. (1999-2000)

## Conclusion

I think that I would be able to contribute a lot to BCG. I have very sharp analytical skills, that have further been honed by my engineering curriculum. My experience at IIT has taught me to be very disciplined and diligent. I have developed a passion to excel in academics as well as my extra-curricular interests, and have learnt to divide my time judiciously between these needs. Curious about foreign cultures since childhood, my year-long stay in France has reaffirmed my flair for languages and my ability to get along with people from diverse backgrounds. I am strongly motivated to build further on my record of excellence as I transition from student to corporate life.



Indian Institute of Technology Bombay  
Chemical Engineering

Male (Senior UG)  
D.O.B : 10/05/1990

Examination	University	Year of Completion	CGPA
Graduation	IIT Bombay	2009-2013	7.1/10
Intermediate/+2	St.Thomas Sr.Sec School	2008	80%
Matriculation	St Joseph's Convent School	2006	93%

## AWARDS AND ACHIEVEMENTS

- **BASF Quiz** : Among top **10** students **at national level**; offered a 2-day sponsored visit to BASF Mumbai plant
- **All India Rank 869** in IIT-Joint Entrance Examination'09 given by **4,00,000** students
- Ranked **68** in state among **45000** students in **All Indian Engineering Entrance Examination'09**
- Qualified first two levels of **National Talent Search Examination'08** conducted by National Council for Educational Research & Training, New Delhi.

**NEN LEADERSHIP AWARD 2011-12'** | National Entrepreneurship Network

[2012]

Awarded by NEN for **mentoring** other **E-Cells** ; planning their objectives, associations and actions

## INDUSTRIAL EXPERIENCE

**BIODIESEL PRODUCTION UNIT** | University Of Maribor, Slovenia

[May' 12-Jul' 12]

- Performed Experiment for **conversion** of by-product Crude Glycerol to Methanol **for reuse**; **50%** MeOH saving
- Augmented Methanol Productivity through an **Aspen Plus** Model by optimizing CO: : gas output
- **Identified abnormal Reactor behavior** causing inefficient running of unit using **Aspen Plus**; Submitted a report providing analysis on behavior of feed, feed rate & temperature
- Received a **letter of Recommendation** from University and awarded a **Bonus** for diligent efforts at Internship

**VIKSON SPORTS INDUSTRIES** | Jammu & Kashmir

[May' 10-Jun' 10]

*Business Development Strategies for brand promotion*

- **Captured remote area market** & enhanced consumer base by over 20% by increasing no. of sales professional
- Increased customer retention by 100% via **liaising** between end-to-end department of sale & quality control
- Analyzed client requirements, offered solutions, prepared a performance analysis report

## POSITIONS OF RESPONSIBILITY

**MANAGER, EVENTS**, The Entrepreneurship Cell, IIT Bombay

[Mar' 11-Feb' 12]

*India's largest entrepreneurship promoting student body, with a budget over ₹ 1 crore; **led a 2-tier team** of 60 Volunteers to plan & execute nation-wide events*

**Eureka! 2011-** *Asia's largest B-Plan Competition*

- Structured the format; **increased participation** by 100% through effective online publicity campaign
- Held meetings with leaders from **Grameen Bank, Stanford** for global outreach; raising \$10000 funds for event
- **Initiated Eureka! Social** (b-plan Competition) to raise seed funding for Social ventures; witnessed 180 b-plans
- Organized 15 Pre- Eureka! workshops across India on b-plan making for national outreach ;1500+ turn-out

**E-Summit 2012-** *2<sup>nd</sup> Largest Entrepreneurship Summit in India*

- **Restructured** Vulture's Nest – **Start-Up funding** platform to revive the primary aim of angel funding
- Initiated Youth Summit; involved youth in Nokia-Adventures, Ideastorm, B-Quiz; **60% YOY** increase in footfall
- Structured 7 **international** workshops & **selected 12 potential Start-Ups** to enhance VC-Start Up interaction

<b>FOUNDER, THE ENTREPRENEURSHIP &amp; BUSINESS CLUB, IIT Bombay</b>	<i>[Mar' 11-Feb' 12]</i>
<ul style="list-style-type: none"> <li>Arranged Alumni student sessions &amp; organized workshops, Networking Arena for a <b>group of 22 Start-Ups</b></li> <li><b>Invited</b> personalities like Muhammad Yunus (<b>Nobel Peace Awardee</b>) &amp; Shekhar Kapur for speaker sessions</li> </ul>	
<b>MENTOR &amp; STUDENT COUNSELOR, Resonance Mumbai</b>	<i>[March'11]</i>
<ul style="list-style-type: none"> <li><b>Mentored &amp; Motivated 5</b> students preparing for IIT-JEE; counseled 25 class 10<sup>th</sup> students opting for sciences</li> </ul>	
<b>CURATOR, TEDXIITB 2011   Organized first ever TEDx Talk in IIT Bombay</b>	<i>[Aug' 2011]</i>
<ul style="list-style-type: none"> <li>Invited <b>business leaders</b> from <b>Silicon Valley</b> with worldwide telecast for 5000 viewer &amp; raised about \$4000</li> <li><b>Acknowledged by TED leaders</b>, Faculty Advisor and leading professors for the exceptional efforts</li> </ul>	

## KEY ACADEMIC PROJECTS

<b>UNDER GROUND COAL GASIFICATION: Modeling and Simulations (ONGC Lab)</b>	<i>[Dec' 11]</i>
<i>Undertaken by IITB and sponsored by ONGC, India</i>	
<ul style="list-style-type: none"> <li>Simulated combustion reactions in coal stream using <b>COMSOL Multi physics</b> to analyze composition profiles</li> <li>Developed <b>MATLAB algorithms</b> to estimate dynamic temperatures and the time taken for combustion of coal for 1D and 2D geometries using finite element method</li> </ul>	
<b>BIO-DIESEL PLANT</b>	<i>[Aug- Sept' 12]</i>
<ul style="list-style-type: none"> <li>Extensively designed a process flow sheet for the bio-diesel production from WV oil on a laboratory scale</li> <li>Evaluated the cost <b>₹ 37.4/L</b>; identified its economic viability &amp; use at geographical variations</li> <li>Performed a quality check test across its Calorific value, viscosity; presented the entire report to the instructor</li> </ul>	
<b>ETHYLENE PRODUCTION THROUGH STEAM CRACKING   Design Project</b>	<i>[Sep' 12]</i>
<ul style="list-style-type: none"> <li>Designed a <b>10,000 MTA plant</b> &amp; accomplished 80% yield</li> <li>Developed a process flow diagram for the flow sheet involving detailed material &amp; energy balance table</li> <li>Executed detailed financial analysis by simulating on <b>Aspen</b> to estimate capital &amp; annual operating cost</li> </ul>	
<b>FISHCHER-TROPSCH PROCESS to produce petroleum substitute   Course Project</b>	<i>[Oct' 11]</i>
<ul style="list-style-type: none"> <li><b>Modeled a reactor</b> for optimum yield of hydrocarbons from CO &amp; H<sub>2</sub> by a kinetic model using <b>MATLAB</b></li> <li>Estimated the catalyst consumed by Simulating a set of 47 differential equations using the process yield</li> </ul>	

## TECHNICAL SKILLS

- Designed a **remote controlled car** for F1 Race Competition (mechanical car racing event)
- Software skills: **MATLAB, Aspen Plus, C, C++, Python, HTML, MS.Excel**

## EXTRA CURRICULAR ACTIVITIES

- CAMPUS AMBASSADOR | Ignited Innovators Movement, India** *[Oct'2011]*
  - Assisted & mentored IITB teams** participating to lead 2 teams to be funded by EATON group
- TEACH FOR INDIA | Volunteer, Mumbai** *[Ongoing]*
  - Teaching Maths & Sociology to 70 students in 2 under resourced schools for equality in education
- Sports**
  - Won 2 consecutive gold-medals at the **Institute basketball Championship** among 10 teams *[2011 & 2012]*
  - Stood 3<sup>rd</sup>** in the **freshmen Badminton** competition among 60 players *[2009]*
  - Stood 2<sup>nd</sup> in Mixed Badminton Championship at city level organized by Rotary Club *[2005]*
- Cultural**
  - 2<sup>nd</sup>** at **Punjabi Traditional Group Dance** Competition organized at School level among **10 teams** *[2005]*
- Other Interests**
  - Actively enjoy travelling; explored 8 countries across Europe during a span of 2 months



Metallurgical Engineering and Materials Science  
Indian Institute of Technology, Bombay

B.Tech.

Male

DOB: 25/09/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	8.62
Intermediate/+2	CBSE	MSMSV, Jaipur	2008	92.20
Matriculation	CBSE	MSMSV, Jaipur	2006	94.20

## PROFILE SUMMARY

- Consistent high performer; recipient of academic accolades and honours throughout
- Wide ranging international and domestic internship experience, both in academia and industry
- Leading member of various teams, active in bringing about change and making an impact

## ACADEMIC ACHIEVEMENTS

- Ranked **4<sup>th</sup>** in 51 students in the Metallurgical Engineering and Materials Science Department ('10-'11)
- Among the 5 recipients of "**Ministry of Steel**" Scholarship across the department for academic excellence ('10)
- Awarded the "**Best in Academics**" trophy in school with highest aggregate percentage in **200** students ('08)
- Among **top 1%** out of over 40,000 students in Indian Physics Olympiad ('06)
- Recognised by **Limca Book of Records** for consistently strong academic performances ('02-'03)

## INTERNSHIPS

**Schlumberger Asia Services Limited – Kakinada, Andhra Pradesh** (May'11–Jun'11)

*Devised and implemented solutions directed towards improving efficiency within the facility*

- Conceptualized a **Lean Implementation** strategy to **reduce** the overall **maintenance time** by **22%**
- Attained an annual decrease in time wastage of **USD 8,500** per employee by **designing tool kits**, with increased accessibility and portability; was **well accepted**, being implemented in other segments
- Developed an **inventory management system** to eliminate time loss by forewarning unavailability of items
- Researched extensively on **Vx** technology and delivered a talk to spread awareness among the staff

**Centre for Nanointegration (CeNIDE) – Duisburg, Germany** (May'10–Jul'10)

*Researched a challenging nano-technology application crucial to generation of low cost, light weight solar cells*

- Experienced **international work exposure** collaborating with a team of researchers from **diverse nationalities**
- Grasped theoretical as well as hands-on experience in the analysis of revolutionary **Indium Oxide** based thin film deposits, using Inert Gas Evaporation (PVD) and Aerodynamic Lens System
- Cutting-edge research was presented (by team) at the **International Aerosol Conference'10, Finland**

**Indian Institute of Management (IIM) – Ahmedabad** (Dec'10)

*Improved upon the Knapsack Algorithm used in a variety of fields to assist real-world decision making*

- Conducted a literature survey on various algorithms on **combinatorial optimization**
- Collated ideas to develop a code with a **40% higher efficiency** than the traditional **knapsack algorithm**

**Essar Industries, Hazira – Surat** (Dec'09)

*Highlighted loss making processes and offered solutions at the Steel Making Plant (SMP) segment*

- Formulated strategies to optimize power utilization by monitoring the working of its multiple sub-segments
- Implementation led to a **12% decrease** in **power consumption** resulting in significant cost reduction

## POSITIONS OF RESPONSIBILITY

**Company Coordinator, Institute Placement Team** (May'11–till date)

*Working in tandem with a 32 member team for campus recruitment involving 300 firms and over 1400 students*

- Initiated talks with over 150 Indian and overseas companies, arranged pre-placement talks, case study sessions and negotiated offers to **maximize benefit** to all **stakeholders**
- Formulated and implemented **recruitment policies**; strategizing to increase number of companies recruiting
- Streamlined the process by contacting companies based on **sector wise research** of student preference
- Identified **prospective employers** across FMCG, Consulting, Oil sectors; successfully promoted institute brand

**Institute Internship Coordinator**

(May'10–Apr'11)

*Part of a 24 member team to streamline industrial and research internship process of more than 800 students*

- Pivotal role in **conceptualizing** the **Internship Policy**, based on comprehensive student feedback
- Achieved a **40% increase** in **internships** and **INR 20 lacs** stipend inflow by promoting company engagements
- Efficiently mapped student-company profiles, increasing companies open for department

**Literary Arts Secretary**

(Jul'09–Apr'10)

*Elected unanimously by over 500 students to maintain the spirit among literature enthusiasts*

- Initiated daily trivia, organised workshops and quizzes to spur interest in literary arts among hostel inmates
- Revamped the Hostel library to accommodate more than 300 academic and non-academic books

**INITIATIVES****International Student Award – British Council**

(May'04–Jan'06)

- Honoured for extra-ordinary contribution to the United Kingdom-India Student **Cultural Exchange Programme**
- Engaged with **British students** to mutually enhance understanding of the **cultural differences** and educational system in either country
- Led the school to the **International School Award** for Outstanding Development

**Active Member, Group for Rural Activities**

(Dec'08–till date)

- Member of the **Teach Me Initiative**, emphasizing on education among people dwelling in the slums
- Participant in the literacy program '**Abhyasika**' whereby tutored slum children once every month

**National Service Scheme**

(Jul'08–May'09)

- Involved in **spreading awareness** about health, environment and public issues in **rural districts** in Maharashtra

**ACADEMIC PROJECTS****Vodafone: Case Study – Shailesh J. Mehta School of Management**

(Aug'10–Nov'10)

*Formulated and presented marketing strategies for the company's new offering*

- Implemented market **segmentation** techniques; conducted a survey to assess demand
- Applied theoretical concepts including **PORTER & SWOT tools** to assist intelligent business decision making

**Fly Ash Based Brick Manufacturing – Business Plan**

(Aug'10–Nov'10)

*Developed a business model investigating profitability associated with fly-ash based bricks over clay based ones*

- Compared factors such as **cost diminution**, weight reduction and safeguards against environment hazards
- Estimated the most **optimum production capacity** and strategic location of the plant
- Applied and demonstrated financial techniques for calculating **net present value** and discounted cash flow

**Microalloyed Steel – Junior Undergraduate Thesis**

(Jan'11–Apr'11)

*Demonstrated the economic viability of Microalloyed Steel with a detailed insight to its diverse applications*

- Conducted an extensive literature survey of over 25 scientific publications
- Highlighted competitive advantages including upto **25 % weight minimization** and superior fabricability

**EXTRA-CURRICULAR ACTIVITIES**

<b>Avid Quizzer</b>	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> out of 300+ students in the <b>Nuclear Disarmament Quiz</b> organised by <b>CNDP</b> ('08)</li> <li>• 1<sup>st</sup> amongst teams from 10 cities in the state level <b>Environment Quiz</b>, MSMSV ('06)</li> <li>• Represented school in <b>Bournvita Quiz Contest</b> and <b>ESPN School Quiz</b> ('05–'06)</li> </ul>
<b>On Stage Performer</b>	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> in <b>impromptu dramatics</b> competition in Freshiezza (Freshman Weekend, IIT Bombay) ('08)</li> <li>• 1<sup>st</sup> in the <b>Performing Arts Festival</b>; Played a supporting role and was incharge of the sets ('09)</li> <li>• 3<sup>rd</sup> amongst speakers from 30 schools in Shankar Gupta <b>state level debate</b> competition ('04)</li> </ul>
<b>Sports Enthusiast</b>	<ul style="list-style-type: none"> <li>• Hostel representative in Squash &amp; Football General Championships ('09–'10)</li> <li>• <b>Swimming champion</b> accomplishing a feat of <b>6 medals</b> at the annual Swimming Gala ('01–'05)</li> <li>• Winner of the <b>Chess Championship</b> at school two years in a row ('01–'02)</li> </ul>
<b>Traveller</b>	<ul style="list-style-type: none"> <li>• Keen to explore Europe, organised multiple group tours for friends and myself ('10)</li> <li>• Travelled to South West USA and South East Asia with family at an early age of 11</li> <li>• Travelled across India to places as far east as Sikkim to Chennai in the south</li> </ul>



Energy Systems Engineering  
Indian Institute of Technology, Bombay  
Specialization: Energy Systems Engineering

Dual Degree (B.Tech+M.Tech.)  
Male  
DOB: 17/07/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.91
Intermediate/+2	CBSE	Vallabh Ashram	2008	92.80
Matriculation	CBSE	Vallabh Ashram	2006	96.60

### SCHOLASTIC ACHIEVEMENTS

- **Ranked 2<sup>nd</sup>** in the Dual Degree '08 batch of the Energy Engineering Department [‘12]
- Awarded 'Indian Public Schools Conference' scholarship for academic excellence (**77 awardees** in India) [‘07]
- Awarded 'Dhirubhai Ambani Foundation' scholarship for securing **1<sup>st</sup> position** in the state (CBSE X) [‘06]
- Awarded **Silver Medal** at the International Geography festival (Junior level) [‘04]

### PROFESSIONAL EXPERIENCE

**BARCLAYS CAPITAL INC.** | *Equity Derivatives, Institutional Sales Desk, Mumbai* [May - Jun '11]

- Improvised the Futures Roll-Spread model to achieve **5% higher correlation** for stocks traded on NIFTY
- Formulated a scheduling tool to optimize order execution timing using the greedy approximation algorithm; achieved **11% reduction** in directional risk for trade baskets
- Published a **white paper** on the rebalancing mechanism of **Morgan Stanley Capital** Emerging Markets Index
- Created a trade-fills generating tool for order clearance; adopted by the desk, saving **10 man-hours** per week
- Actively contributed in preparing internal memoranda and answering investor requests

**DALBERG GLOBAL DEVELOPMENT ADVISORS** | *Market scoping study for Asian Development Bank* [Jan - Mar '12]

- Examined **150 inclusive businesses** to prepare an initial deal pipeline of a social impact investment fund; identified the size and scope of sectors with greatest potential for economic and social impact
- Analyzed the macroeconomic conditions for favorable growth of Bottom-of-Pyramid enterprises in India to study the feasibility of establishing a venture fund focused on inclusive businesses in India
- **Recommendations** based on the macro-economic analysis were **adopted** as part of the investment strategy

**TEACH FOR INDIA** | *Development Team, Mumbai* [Dec '11]

- Implemented and rolled out a funding map to **scenario-play** and **communicate the strategy** for achieving annual objectives; **adopted across the office**
- Improvised, organized and standardized the existing performance benchmarking process

### KEY ACADEMIC PROJECTS

**OPTIMIZATION OF HYDROGEN NETWORK IN REFINERIES** | *Master's Thesis* [May '12 – Present]

- Developing a **network matching** algorithm for reducing external hydrogen demand in oil refineries
- Successfully adapted the problem using **process integration** to set best-practices goals

**ELECTRICITY PRODUCTS AND PRICING IN INDIA** | *Seminar* [Jan '12-Mar '12]

- Simulated the market behavior as a **combinatorial auction** for both day-ahead and intraday products
- Improvised the programming framework to successfully model **paradoxically rejected bids**

**HOME LIGHTING SYSTEM** | *Energy Innovation Project* [July '12-Nov '11]

- Designed and built a light-collector system to harness the passive sunlight on roof-tops for internal lighting
- Incorporated a 2-D axis tracking model for better efficiency leading to a **payback period** of less than **2 years**

## LEADERSHIP AND ORGANIZATIONAL SKILLS

### CORE GROUP MEMBER, HEAD OF MARKETING | Mood Indigo 2010

[Mar '10 - Mar '11]

*India's largest college festival with 130 events, attendees from 500 colleges and 900 volunteers*

- Led a 2-tier team of **64 volunteers** to raise corporate funds in excess of **INR 15 million** - **40% y-o-y growth** and effectively represent the interest of **62 sponsors** in media and on campus
- Introduced an Elite Media Plan for ubiquitous visibility, packaging innovative and distinct mileages such as promotional blimps and live concert broadcasts; garnered **INR 7 million** through top tier sponsorship
- Forged a deal with UTV to broadcast first ever **commercial television ads** of Mood Indigo with its sponsors
- Launched a corporate relations campaign to ensure future associations; facilitated **30 % retention** for 2011
- Pioneered client specific marketing for marquee events: Japanese firm for directly sponsoring the Sumo wrestling match and a PSU for supporting the Asha Bhosle concert

### CO-FOUNDER AND DEVELOPMENT HEAD, ENABLE INDIA

[Nov '11 – Present]

- Co-Founded a **social enterprise** to connect a motivated student workforce with high impact NGOs
- Launched the first student volunteering chapter in Mumbai, engaging **350 students** across **9 IITs** and **70 other colleges**; initiated the Delhi and Jaipur chapters with over **200** student registrations
- Established strategic partnerships with organizations like **Teach For India, Greenpeace, Save the Children, PETA** among others, to provide on-ground volunteering opportunities for our student fellows
- Won the 'Social Entrepreneurship Challenge' organized by *Ekjaa* amongst over **100 entries** across India

### CABINET MENTOR, INSTITUTE STUDENT MENTOR PROGRAM, IIT BOMBAY

[Apr '12 – Present]

- Invited to the **8 member** cabinet of senior mentors; liaising with the apex institute council to highlight and resolve student concerns around the Academic Rehabilitation Program
- Advising a team of **10 mentors across 3 departments** to counsel freshmen and tackle **sensitive issues** such as student depression and suicide attempts

### INSTITUTE STUDENT MENTOR, IIT BOMBAY

[Apr '11 – Present]

*An initiative by faculty to designate model students to act as positive influence for the freshmen*

- Appointed as a mentor based on interpersonal skills and peer review to guide 24 freshmen over 2 years
- Ensured their smooth transition to campus life and helped them solve personal and academic problems

## EXTRA-CURRICULAR ACTIVITIES

### COMMUNITY SERVICE PROJECT

[Jan '12 – April '12]

***Awarded Letter of Appreciation** from Govt. of Maharashtra for dedicated service to the community*

- Compiled water supply and sanitation data for a village in Pune, surveyed over **50 BPL households**
- Proposed a water filtration plant to the District Administration; **sanctioned for Magistrate's review**

### CULTURAL

- **Lead Actor**, Performing Arts Festival (PAF); secured **2<sup>nd</sup>** position overall [ '10]
- Acted and co-scripted plays for **Annual Theatre Fest** and **Main Dramatics Championship** [ '09 - '10]

### MISCELLANEOUS

- Designed a mobile app – MapTheCab (iOS and Android platforms), to book radio cabs in real time [ '11]
  - **Finalist** (top 10 teams among 950 entries), **Eureka!**, Asia's Largest Business Plan Competition
  - Ranked among the **top 3** in Technology Track in Vishishth – **IIT Delhi's** Business plan Competition
- **Won** the SHARE IIT Delhi case study competition, **Aavishkaar**; proposed a hybrid energy solution, using off-grid sources, for meeting rural energy demand [ '11]
- **Researcher**, Geopolitical Analysis, **Wikistrat Analyst Program** [ '12]



## EDUCATION

Year	Degree/ Certificate	Institute/ School, City	CGPA/ %
2002 to present	Dual Degree in Electrical Engineering and ICT	Indian Institute of Technology Delhi, New Delhi	7.82
2002	A.I.S.S.C.E	Bal Bharati Public School, New Delhi	85.2%
2000	A.I.S.S.E	Bal Bharati Public School, New Delhi	90.6 %

## ACADEMIC ACHIEVEMENTS

- Amongst **Top 5 students** in the institute at the end of first year to be allowed a department-change, **on merit**.
- Twice awarded Certificate of Merit (**Top 7%** students in institute) at IIT Delhi.
- Secured a rank of **57 amongst 30,000** students in CEE 2002, the entrance exam for Delhi College of Engineering.

## SUMMER INTERNSHIP & ACADEMIC PROJECTS

- **Electron Mobility in Semiconductors** *May-July, 2006*  
Technical University, Braunschweig, Germany
  - Investigated the accuracy of a proposed formula on mobility of electrons in semiconductors
  - Proposed changes in the formula using graphical, optimization tools, decreasing error against practical results by **10 times** the initial.
- **Channel Equalization in OFDM Systems** *May 2006 - Till Date*  
Major Project, IIT Delhi
  - Working on the design of an equalizer in communication systems with focus on adaptive channel estimation.
- **Single Board Computer Compatibility** *May-July, 2004*  
Electrical Engineering Department, IIT Delhi
  - Tested the compatibility of Advantech, a single board computer, with Windows CE (an operating system for PDAs)
  - Installed a webcam on the same for further testing.

## POSITIONS OF RESPONSIBILITY

- **House Secretary**, Vindhyachal Hostel, IIT Delhi *2005-06*
    - **Restructured** the various committees of the hostel to make them more responsive like including residents from various regional backgrounds in the mess committee & from each floor in the maintenance committee
    - For the first time ever, initiated **Career Orientation Sessions** for first year students
    - **Conceived and implemented** a plan for using the extra space around the hostel area for a lawn for the residents
    - As a completely **new concept in IIT**, conceived and got installed a Roti Making Machine in the hostel, along with my mess secretary
    - As something never done before, held a small **"thanksgiving dinner"** for our hostel's workers
    - Took a **host of other initiatives** like conceiving the idea of a **hostel website** with features like complaints' section and discussion forum, relocating hostel's facilities, introducing a sports room, getting opened a new STD booth, getting installed coolers and ducting for our common room and mess, and so on.
- Major Achievements during tenure:**
- Won the **Board of Hostel Management Trophy 2005-06**, *the highest award for the best managed hostel*, won **only twice** in the last fifteen years by Vindhyachal hostel.
  - Led a team of hostel's sports secretary and sports captains, facilitating infrastructure, equipments and other inputs for the teams, finally ending up winning the **General Championship 2005-06**, *the highest overall award for sports for a hostel*, for the **first time** in Vindhyachal's 40 year-history.

- **Pitching Team Coordinator, Training and Placement Cell, IIT Delhi** 2006-07
  - Conceived and designed the **placement brochure**, being used by the TnP Cell for all correspondences, from concept to the matter and the layout
  - Built, and am presently supervising, a team of 7 placement representatives which is contacting companies on behalf of IIT Delhi.
- **Cultural Secretary, Electrical Engineering Society** 2004-05
  - Organized various cultural activities for the society. Also organized the farewell for the passing out batch
  - Introduced a **talent-hunt** part in the Freshers' Welcome event.
- **Member, BHM & SAC Councils** (*institute-level hostel management and student affairs' committees*) 2005-06
  - Conducted a **hostel survey** to give active feedback on changes in model room, to be duplicated among all hostels
  - Raised concern over issues like medical facilities for students, sagging hostel balconies, net speed, among others
- **Member, Marketing Team, Sportech** (IIT Delhi's Sports Festival) 2004-05
  - Involved in contacting companies, presenting to them, and convincing them to sponsor at the event
  - As part of a team, attracted a sponsorship of around 4 Lakhs
- **Event Coordinator, Aagaz, Rendezvous** (Introductory Event, IIT Delhi's Cultural Festival) 2004-05
  - Arranged for inviting the chief guest, a professional musical band, supervised the logistics and decoration.

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## EXTRA CURRICULAR ACTIVITIES & AWARDS

Awarded **Significant Contribution to BHM, 2005-06** (*Second Highest Award at the Institute level for Board*)

- **Dance & Dramatics**
  - **2<sup>nd</sup> Prize**, Choreography, **inter-college** competition, Rendezvous 2004-05.
  - **Directed Concoction**, an independent dance show, which was organized at the institute level **for the first time**.
  - Performed at the **inter-college** choreography competition, Lady Hardinge Medical College, Delhi.
  - Inter hostel events:
    - **2<sup>nd</sup> Prize**, Music Manoranjan (2005), **dramatics-cum-music-cum-dance** event - **director, writer**.
    - **2<sup>nd</sup> Prize**, Group Dance (2005), **3<sup>rd</sup> Prize** (2004, 2003) - **participant**.
    - **3<sup>rd</sup> Prize**, Street Play (2005) - **actor, writer**. **2<sup>nd</sup> Prize**, English Play (2004) - **actor**.
  - Awarded **Significant Contribution to BRCA** (Cultural Activities), Vindhyachal Hostel 2004-05.
- **Table Tennis**
  - **Member, Institute Table Tennis Team** 2004-05. 4<sup>th</sup> in 40<sup>th</sup> Inter-IIT Sports Meet, Chennai, 2004.
  - **Bronze Medal**, Inter-hostel table tennis tournament, 2004-05. **Captain** of the team.
  - Represented school in the **Inter-zonal competition**, 1998.

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## VOLUNTARY WORK

- **Grassroots Innovations Augmentation Network**, Ahmedabad, Gujarat Dec 2005
  - Understood the vision, mission, working of the organization, and suggested changes for better efficiency
  - Conceived the idea of a channel between IIT Delhi and GIAN, whereby students from the institute could work as interns in the organization during summers.
- **Pragya**, IIT Delhi Sep-Nov, 2004
  - Taught 10-15 children aged 6-8 years from slum areas surrounding IIT Delhi
  - Gave suggestions like **adopting one or two better performing kids** by Pragya, to be mentored year after year, to make more sense out of the organisation.

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## OTHER INTERESTS

- I love to travel and interact with people
  - During my stay in Germany, I interacted with, and befriended, people from **8 different nationalities**.
  - As part of a multi-level marketing scheme, eBIZ ([www.ebizel.com](http://www.ebizel.com)), I travelled to places like **Kharagpur, Gwalior, Jaipur, Aligarh**.

Phone:  
Email:  
Web: 1

**Biographical:**  
Male, Citizen of India  
Born: October 07, 1985

#### Contact

#### EDUCATION

YEAR	DEGREE/CERTIFICATE	INSTITUTE/SCHOOL	GPA / %	RANK
2003-2007	B. Tech. in Electrical Engineering	Indian Institute of Technology Delhi	9.23	9/59
2003	Grade 12: A.I.S.S.C.E.	Apeejay School Pitampura, Delhi	90.6%	1/51
2001	Grade 10: A.I.S.S.E.	Apeejay School Pitampura, Delhi	85.6%	-

#### Scholastic Achievements

- IIT Delhi Merit Prize thrice for academic excellence (2003-2004, 2006)
- *K. Vasudevan Award* for securing the highest CGPA in my department at the end of first year (2003-2004)
- Awarded the National Initiative on Undergraduate Science fellowship by HBCSE, Mumbai (2004-2006)
- Gold medal for being in the top 25 Indians at the selection camp for the International Physics Olympiad (2003)
- All India Rank 18 in the Indian National Mathematical Olympiad (2002)
- The President's gold medal for topping all major subjects in senior secondary school (2003)
- *Kishore Vaigyanik Protsahan Yojana* (KVPY) fellowship by the Indian Institute of Science (2001)
- Awarded the prestigious National Talent Search scholarship (2001)
- All India Rank 2 (2001) and Rank 5 (2000) in the National Science Olympiad from among 100,000 participants.
- Awarded the *Young Astronomer* title twice by Nehru Planetarium, New Delhi (2001, 2002)
- Tryst: The annual IIT Delhi technical festival
  - Second in Diathlon, the International Robotics competition (2006)
  - Second in C(reativity)++, the International multiplayer 3D game design contest (2004)
  - Second in the High-Fidelity, the Radio design contest (2006)

#### Key Academic Projects

- Working on asynchronous VLSI techniques to design graphics processors that promise major performance and power improvements over existing NVIDIA/ATI computer graphics cards. *IIT-Delhi, July 2006 - Present*
- Completed electronic characterization of semiconductor nano-clusters, the next-generation VLSI technology, using quantum mechanical methods. *Homi Bhabha Centre for Science Education Mumbai, December 2005*
- Designed and implemented an intelligent robot capable of visually observing and learning complex motion skills using Neural Networks. *IIT-Delhi, January-May 2006*
- Built the functional prototype of a Low-Cost Digital Overhead Projector. *IIT Delhi, March-April 2005*

#### SUMMER TRAINING

**NVIDIA Graphics Private Limited**, Bangalore, May-July 2006

- Developed tools for the formal verification of an upcoming high-end Media & Communications Processor chip as a part of the ASIC verification team. Also helped debug several issues in the FPGA testing environment.
- The tools developed were incorporated into the standard Verification & Testing procedure at NVIDIA.

**IIT Delhi Department of Physics**, Delhi, July 2005

- Hired by Prof. A. Ganguli to develop software for high-precision measurement of voltage-current characteristics of a plasma gas chamber by interfacing with the Advantech PCI-1712 card at 3Hz-1MHz.
- The performance of the package obviated the Plasma Laboratory's pressing requirement for obtaining expensive industry-standard LabVIEW software (approx. cost Rs. 80,000)

#### EXTRACURRICULAR ACTIVITIES & POSITIONS OF RESPONSIBILITY

- **Coordinator (Publicity) for Nihilanth 2005**, the Second Annual Inter-IIT/IIM Quizzing Festival.
- **Activity Head (Marketing) for Rendezvous 2005**, the All India Cultural Festival organized by IIT Delhi.
- **Quizzing**
  - Representative, Quizzing Club (2004-2005)
  - Awarded the Best Club, Board for Recreational & Creative Activities (BRCA) (2004-2005)
  - Awarded the Certificate of Appreciation (2004, 2005)
  - Served as the Quizmaster for several events.
- **Student Mentor, Department of Electrical Engineering (2005-2006)**
- **Fine Arts**
  - Won various sketching and painting events at the Fine Arts Club, IIT Delhi (2004-2006)
  - Awarded the Significant Contribution to Fine Arts Club, BRCA (2005-2006)
  - Web Design/Digital Art: Designed websites, posters and brochures for several events and organizations (Student Affairs Council, Rendezvous 2005, Nihilanth 2005, BRCA, Quizzing Club IIT Delhi)
- **Computer Graphics**
  - Built a feature-packed Raytracer for rendering photo-realistic 3D movies and images (2006)
  - Created EZ Animation, a 2D computer animation software. Won two inter-school prizes (2000, 2002)
  - Wrote 3DML, a 3D graphics design software. Won an inter-school prize (2001)
- **Astronomy**. Amateur enthusiast and a regular stargazer.

## RESUME

NAME: [REDACTED]

Address: [REDACTED]

IIT Bombay, Powai, Mumbai

Phone: [REDACTED]

Date of Birth: 21<sup>st</sup> May 1985

### Education

Year	Degree/ Certificate	Institute/ School, City	CPI/ %	Rank
2007	B.Tech., Comp. Sc. And Engg.	IIT Bombay	9.41	Department Rank 3
2003	Class XII: CBSE	DAV College, Chandigarh	82.4%	
2001	Class X: CBSE	The Lawrence School, Sanawar	91.0%	School Rank 1

#### • SCHOLASTIC ACHIEVEMENTS

Recipient of the IIT Bombay Heritage Fund Scholarship for academic excellence which is awarded to only one student in each department.	2006
All India Rank 9 in the IIT Joint Entrance Examination with a percentile greater than 99.995.	2003
All India Rank 48 in the All India Engineering Entrance Examination.	2003
Recipient of the National Talent Search Examination Scholarship which is awarded by the Govt. of India to only 1000 students from across the nation	2001

#### • KEY ACADEMIC PROJECTS UNDERTAKEN

<b>Senior Thesis : SHIKAV (Guide : Prof. A. Ranade)</b>	<b>[Aug 06 – till date]</b>
<ul style="list-style-type: none"><li>Shikav is an <b>Intelligent Tutoring System</b> (A system capable of tutoring a student independently) being developed at IIT Bombay by Prof. Ranade.</li><li>Shikav allows the student to <b>learn interactively</b> when the tutor is not available and the lessons can be developed by anyone with minimal IT knowledge. A Shikav lesson at present can only interact with the student through text or simple geometry.</li><li>Building a feature to support <b>Simulations</b> (like M/M/C/K networks) which can run in the Shikav background and display the results to the student. The student can use this feature to change various parameters and see their effect on the result of the simulation.</li><li>Added a feature through which these results can be plotted to produce various <b>graphs</b> which enhance the student's understanding of the subject.</li></ul>	
<b>Portal for Rural Entrepreneurs</b>	<b>[Sep 06 – till date]</b>
<ul style="list-style-type: none"><li>Built a portal which provides updated information on microfinance schemes, rural innovations, education programs, relevant events and news.</li><li>Also includes a forum for discussion and mentoring in various sectors.</li></ul>	
<b>Network Cost Optimization</b>	<b>[Oct 06 – till date]</b>
<ul style="list-style-type: none"><li>Building a web based network design tool to help network designers find optimum balance between wireless and wired technologies to cover different territories.</li><li>The tool will help estimate initial investment and maintenance costs of the network.</li></ul>	
<b>Stock Market and Online Banking Software : (Guide: Prof. N L Sarda)</b>	<b>[Aug 05 – Nov 05]</b>
<ul style="list-style-type: none"><li>Built software which can handle various transactions involved in banking and stock market trading system separately through a web interface.</li><li>Integrated the banking and stock trading system such that all transactions can be online.</li><li>Displayed various characteristics of the companies, their historical performance etc. so that the user can make an informed decision.</li></ul>	

## Summer Internship

**Organization:** UBS Investment Bank **Department:** Risk Management Products & Derivatives Trading, Equities **Position:** Summer Intern, **City:** Hong Kong , **Period:** May 06 – July 06

- Gained experience in **Risk Management Products Sales and Derivatives Trading.**
- **Trading Desk**
  - Learnt the structuring and pricing of exotic derivatives and various hedging strategies using derivatives.
  - Helped design an **implied volatility tool** for derivatives traders.
- **Sales Desk**
  - Developed a number of **generic back-testing modules** for popular risk management products.
  - Helped on **sales presentations** for various client pitches
- **Internship Project**
  - Added a number of front-end and back-end features to the database software used by Sales Team to keep track of trades, clients & underlying instruments.

## Key Positions of Responsibility

Core Team Member,  
E Cell,  
IIT Bombay  
[April 05 to March 06 ]

Accomplishments as **Marketing Manager.**

- Raised sponsorship of over **16 Lakhs** for various events organized by E-Cell.
- Led a team of **20 volunteers**, responsible for getting sponsors for various activities.
- Formed alliances with **NASSCOM & Silicon Valley Bank** for collaboration in events and sharing of resources.

Team Accomplishments

- Conceptualized and conducted the first ever Entrepreneurship Summit in India. It was attended by over **1500 students** and had over **50 corporate speakers.**
- Laid the foundation for Eureka! , The International B-Plan Competition organized by E-Cell, to be opened for **working professionals'** entries.
- Enabled the expansion of **Ideaz..**, a previously IIT Bombay centric event to a Pan IIT level.
- Launched the **Start-Up Team Builder** in Sep 2005. It has over 700 members now.
- Conceptualized and initiated the development of a **Global Entrepreneurship Network** which currently includes 5 IIMs, 5 IITs, FMS Delhi, NITIE, NIT Trichy and BITS Pilani.
- Adjudged **"The Best Entrepreneurship Cell"** in the country by the National Entrepreneurship Network.

## Relevant Courses Undertaken

- Cost Benefit Analysis
- Financing Economic Development
- Introduction to Economics
- Derivatives and Risk Management

## Computer Proficiency

- Proficient in Microsoft Excel, Word, VBA and Macros
- Proficient in Microsoft Access, HTML and SQL
- Programming languages - C, C++, Scheme, Java , Ruby, Shell

## Extra Curricular Activities

- Presented **"Certificate of Honour"** for Excellence in Entrepreneurship by the Wadhvani Foundation at **TieCon 2005** in New Delhi.
- Finalist in **Gladiator – An entrepreneurial venture** simulation during Avenues, 2004.
- Participated and secured positions in various **dance** and **dramatic** events at inter-hostel level.

## Education

Year	Degree/Certificate	Institute/ School City	CPI/%
2002 - present	Bachelor of Technology Engineering Physics	IIT Bombay	6.39
2002	AISSCE (Class XII) Central Board of Secondary Education	St. John's School, Kota	83.6
2000	AISSE (Class X) Central Board of Secondary Education	St. Paul's School, Udaipur	81.6

### Academic Activities:

- **B.Tech. Project (July '05 to present):** Working on a project on **Investment Climate, Foreign Direct Investment and Development**, under Prof. K Narayanan. The project involves the study of currently used econometric models, and the final aim is the development a new model that overcomes some of the present limitations and assumptions.
- **B.Tech. Seminar (July'04 – Nov.'04):** Undertook a project and gave an in-house presentation on **Experimental Techniques in High Energy Physics** under Prof. Raghav Varma, IIT Bombay
- Worked on a project on **Medication system for HIV/AIDS** under the guidance of Mr. Pritam Pandya (Director, Western Region-The Federation of Indian Chambers of Commerce and Industry (**FICCI**)) during summer '05. The project involved a **study of the market and the behavior patterns** of high-risk groups and the identification of a suitable delivery mechanism for the medication.
- **Summer Internship** (Summer 05) at Somani Enterprises, involving on-field work on the **maintenance of long distance optical fiber cables**. My work involved the optimization of manpower and resource deployment at various sites.
- **Designed a Railway Signal System** in the Digital Circuits Lab
- Developed software programs (C++) for the minimization of expressions using Karnaugh maps, and the state minimization of state machines using a reiterative partitioning technique.
- **Management and Entrepreneurship Development Programme (2004):** Participated in the lecture-discussion series in MDP and EDP, organized jointly by The Entrepreneurship Cell, IIT Bombay and BSE.
- **Disposal of Hospital Waste in the City of Lakes:** A project report under the Cleaner India Greener India initiative of the National Children's Science Congress. Met the District collector and PRO and several senior doctors of Udaipur.

### **Other Activities:**

- Developed a marketing proposal for Beans & Intellect, a startup based at Kresit, IIT Bombay
- Conceptualized a module on 'Team building' for Aakar, a teaching based startup by IIT students.
- Designed and launched a website for Gattani Endosurgical Research and Education Center.
- Was actively involved in music, dance, debating and quiz competitions at school
- Was part of the winning class teams in table tennis, basketball and kho-kho at school
- Represented the school science club at science seminars, workshops and competitions

## Extra-curricular Activities

### Positions of Responsibility

Position, Organisation, Period	Key achievements
<b>Core Group Member, The Entrepreneurship Cell, IIT Bombay</b> May 04 to Apr 05	<ul style="list-style-type: none"> <li>Solely responsible for getting the <b>jury for Eureka! 2005 Finals</b> including international faculty, venture capitalists and technocrats.</li> <li><b>Initiated</b> and carried forward <b>collaboration</b> with The Federation of Indian Chambers of Commerce and Industry (<b>FICCI</b>); forged active relationships with AIESEC and INSEAD Singapore</li> <li>Conceptualized and launched an <b>offline Entrepreneurs Club</b>, towards developing a cult of entrepreneurship among young people</li> <li>Invited Ms. KM Shaw, Mr. Ajay Piramal, Mrs. Swati Piramal, Mr. Dilip Chhabria, Prof. Ashok Jhunjhunwala, Prof. Patrick Turner (INSEAD) and several other bigwigs.</li> <li>Attended <b>TieCon 2004, FICCI Conventions and AIESEC National Congress 2004</b></li> </ul>
<b>Manager, Events Avenues 2004, The Annual Business Meet, IIT Bombay</b> May 04 to Oct 04	<ul style="list-style-type: none"> <li>Worked with <b>SJMSOM students</b> on event plans and marketing proposals, headed a <b>team of 40 juniors</b> to plan and successfully execute several events including workshops, competitions, guest talks, debates, interviews and a video-conference with an HBS professor</li> <li>Arranged <b>India's first Business Simulation</b> designed for Entrepreneurial learning Obtained the rights of documentaries on Indian corporate stalwarts from <b>BBC Worldwide, London</b>, for display during Avenues</li> </ul>
<b>Hospitality In-charge, SPIC MACAY National Convention</b> June 04	<ul style="list-style-type: none"> <li>Managed transport and accommodation for over 1000 delegates</li> <li>Hospitality for 40 senior artists including Pt. Shiv Kumar Sharma, Ustad Bismillah Khan, Birju Maharaj, Shabana Azmi, Farookh Sheikh, Wadali Brothers etc.</li> </ul>
<b>Co-ordinator, Events The Entrepreneurship Cell, IIT Bombay</b> May 03 to Apr 04	<ul style="list-style-type: none"> <li>Co-ordinated a <b>Vintage Car exhibition</b> with the Vintage and Classic Car Club of India, a panel discussion on CRM, a <b>GD workshop</b> by IMS.</li> <li>Co-ordinated the Management Development Programme hosting Mr. Alyque Padamsee etc.</li> </ul>
<b>Co-ordinator, Mood Indigo - Dec 03</b>	<ul style="list-style-type: none"> <li>Collected written feedback from participants and responded to it via email <b>for the first time in the history</b> of Mood Indigo.</li> </ul>

### Awards and Achievements:

- Awarded the **Institute Organizational Color 05** for organizational excellence (given only to 0.2 % of the students)
- Reached **National Level Competition** with a science project on Hospital Wastes
- Special Mention at a State Level Speech Competition**, 98-99, after coming first at District Level competition.
- Won the **Student of the Year** award at junior school.
- Won **several Science and GK quizzes** organized by Department of Science and Technology, Genius Students Society, International College of Knowledge, , NIIT, Nestle, Impetus and other local organizations.
- Was awarded **scholarship at junior school** for excellent academic performance at various levels.





## MALE

### ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute/ School City	CGPA/Percentage
2006	Bachelor of Technology – Engineering Physics	IIT Bombay	6.53
2002	Class XII - CBSE	St. John's School, Kota	83.40 %
2000	Class X - CBSE	St. Paul's School, Udaipur	81.60%

### ACADEMIC DISTINCTIONS

- All India Rank **815** in **IIT JEE** among over 1,50,000 candidates, 2002
- Awarded **Certificate of Merit** by Delhi Association of Mathematics Teachers, through the **National Mathematics Olympiad** Contest, 1999
- Awarded **AA (10/10)** Grade in both stages of the final year B.Tech Project, 2006
- First Runner up** in the District level science quiz organized by Department of Science and Technology, 1998
- Awarded the Pre-Junior Personality Development Programme Certificate by Genius Students Society, Rajasthan, 1997

### CO-CURRICULAR ACHIEVEMENTS

- Won the **first prize** at B-Samadhan, the **National Level** Business Strategy Competition organized by SJM School of Management, IIT Bombay to devise a growth strategy for **Educomp Solutions Ltd**, judged by the CEO, Mr. Shantanu Prakash, 2006
- Among top 2 percent of the **High IQ** people in the world - Certified member of **Mensa International**, 2006
- Finalist** in Vishleshan, the case analysis competition at The Annual Business Seminar' 06 at Tata Institute of Social Sciences, Mumbai, 2006
- Appointed as faculty of Computer Science for NSS Vidya, a social organization on IIT Bombay Campus, 2003
- State and District winner** in a science project competition conducted by Childrens' Science Congress, 1997

### SELECT PROJECTS AND PAPERS

- B.Tech Project** : An economics project on '**Investment Climate, Foreign Direct Investment and Development**' , 2006  
Brief : An extensive study of the literature on the role and importance of international trade and FDI, the factors affecting the choice of FDI destinations and its relation to development. The relative importance of the factors was studied using statistical analysis on World Bank data  
Achievement : **Commended** for impressive motivation, hard work and thorough empirical analysis and literature review
- Presented a paper in the **State Seminar** on 'Science and Technology in the New Millenium' , awarded a **certificate of merit**, 1999
- Presented a report on 'Hospital Waste Management' at the **National level** of Children's Science Congress, 1997

### POSITIONS OF RESPONSIBILITY

IIM Calcutta	
Member, Consulting Club	<ul style="list-style-type: none"> <li><b>Initiated</b> a relationship with <b>The IndUS Entrepreneurs</b> (TiE) towards increasing industry interaction and facilitating SME consulting by students</li> <li>Developing in-house projects on the systems at IIMC - library, mess etc.</li> </ul>
Member, Center for Entrepreneurship and Innovation	<ul style="list-style-type: none"> <li>Revived the relationship between IIMC and <b>National Entrepreneurship Network</b> (NEN)</li> <li>Working on a <b>seed capital fund</b> for student entrepreneurs via Alumni Support</li> </ul>
Member, Entrepreneurship Cell	<ul style="list-style-type: none"> <li>Co ordinating with The IndUS Entrepreneurs for arranging judges and guest speakers</li> </ul>
IIT Bombay	
Core Group Member The Entrepreneurship Cell	<ul style="list-style-type: none"> <li><b>Solely responsible</b> for assembling the jury for <b>Eureka! 2005 Finals</b> comprising international faculty, venture capitalists and technocrats including Prof. Patrick Turner (INSEAD), Prof. Ashok Jhunjhunwala (Tenet)</li> <li><b>Initiated</b> the collaboration with <b>FICCI</b>, forged active relationships with <b>AIESEC</b> and <b>INSEAD</b> Singapore</li> <li><b>Co- founded</b> an Entrepreneurs' Club towards inculcating a spirit of entrepreneurship in young people</li> <li>Invited Ms. Kiran Mazumdar-Shaw, Mr. Ajay Piramal, Mr. Dilip Chhabria, Prof. Ashish Nanda (HBS), Mr. Sushil Jiwarajka (Salora, FICCI) and other business luminaries for interaction with students</li> <li>Attended TieCon 2004 and AIESEC National Congress 2004</li> </ul>
Manager, Events Avenues' 04, The Annual Business Meet	<ul style="list-style-type: none"> <li><b>Headed</b> a team of 40 junior students to plan and execute workshops, competitions, guest talks and interviews</li> <li>Arranged <b>India's first Business Simulation</b> designed for entrepreneurial learning</li> <li>Obtained the rights to documentary films featuring Indian corporate stalwarts, from <b>BBC Worldwide, London</b>, for display during the meet</li> <li>Worked with SJM School of Management students on event plans and marketing proposals</li> </ul>
Co-ordinator, Assistance Mood Indigo' 03, Cultural Festival	<ul style="list-style-type: none"> <li><b>Initiated</b> a feedback process for Mood Indigo participants leading to enhanced responsiveness</li> <li>Led a team of several students to ensure efficient functioning of the assistance window</li> </ul>

### EXTRA CURRICULAR ACHIEVEMENTS

- Awarded the **Institute Color** 2004 for excellence in the field of **organization** at **IIT Bombay** (given only to 0.02% of students)
- Second Runners Up** in the paper modeling competition in **Techfest 2003**, IIT Bombay
- In-charge of Hospitality for **SPIC MACAY National Convention 2004**, hosting over a thousand delegates and forty senior artists
- Member, **winning teams** in Basket Ball, Table Tennis and Kho-kho at school level competitions

### OTHER INFORMATION/INTERESTS

- Study of Geeta** : Interested in the relevance of the ancient text for contemporary youth
- Street Photography**: Like to focus on the subject and emotions to be captured
- Social Activism** : Part of social groups on and off campus at IIT Bombay and several online groups

## EDUCATION

Year	Degree/ Certificate	Institute/School, City	CGPA/%
2003-07	B.Tech (Mechanical Engineering)	Indian Institute of Technology, Delhi	8.4/10
2002	Class XII (AISSCE) – CBSE	Delhi Public School, R.K.Puram, Delhi	92.0%
2000	Class X (AISSE) – CBSE	St. Joseph's High School, Bathinda	91.0%

- Awarded the **Summer Undergraduate Research Award (SURA)**, (2005)
- Recipient of **National Talent Search Examination (NTSE)** Scholarship by Govt. of India (2000)
- **Merit Scholarship Holder, Government** of France, for one year of studies in France (2005-06)
- **2nd prize in Chemica** (Chemistry Olympiad) held at Tryst, IIT Delhi's Technical Festival (2004)

## EXCHANGE PROGRAMME

- **1 of 5 students** selected to represent IITD on **exchange programme to INSA-Lyon (2005-06)**
- Spent 1 year **studying in French** along with **more than 500 foreign students from over 30 countries**
- Member, India Action Group - helped **raise €6000** for an **orphanage** in Chennai

## KEY ACADEMIC PROJECTS

- **Design of a compliant micro mechanism** *May-Aug '05*
  - Designed a four bar mechanism using compliant hinges and **determined parameters for optimum design**, the results of which have been sent for publication of:
    - *Design issues in a micro flapping mechanism, Trivedi R., Goel A., Mukherjee S. 2006 Journal of Mechanical Design, American Society of Mechanical Engineers (ASME)*
- **Design of ski prototype for SAT Sports**, a sports goods manufacturer in Lyon *Oct '05-Mar '06*
  - Worked with a **group of 10 international students** at INSA-Lyon to design an improved machine prototype for SAT Sports that reduced relative slipping between the skis and snow
  - Reduced machine weight **by 50%** and manufacturing cost **by 20%**, increasing its commercial viability

## SUMMER INTERNSHIP

**Robert BOSCH (France) S.A, Vénissieux, FRANCE**

*April-July 2006*

- Worked in the **Production Team** of the Nozzle Holder Assembly Department
  - Applied the principles of Bosch Production System (BPS) leading to **reduction in time (~20%) and inventory (~15%) losses**
  - **Defined the work methodology** for a multi-functional production line (changing its configuration from U to I) thereby **increasing the rate of production by 15%**
- Have been invited to work in the BOSCH subsidiary in India

## POSITIONS OF RESPONSIBILITY

<b>Events Coordinator, Rendezvous 2006</b>	<ul style="list-style-type: none"> <li>• Was responsible for managing events attended by over 5000 participants from 50+ colleges</li> <li>• <b>Conceptualised</b> and successfully introduced <b>an entirely new event, TALK TURKEY</b> (youth centric, issue based panel discussion); <b>roped in NDTV to organize the same with Vikram Chandra</b> as host, making it <b>the first Rendezvous event ever to be televised</b> on national television</li> <li>• Due to this, Rendezvous found a <b>media partner</b> which helped increase the festival budget <b>to 36 lakhs</b></li> <li>• <b>Increased participation in Funzone and Podium by over 100%</b>; introduced new events like Blind Date, Who Dares Wins</li> </ul>
<b>Coordinator, Nihilanth 2005</b>	<ul style="list-style-type: none"> <li>• Part of team of 15 students that organized <b>the first pan IIT-IIM cultural event at IIT Delhi</b></li> <li>• <b>Synchronized the working</b> of marketing, publicity &amp; logistics teams ensuring flawless organization</li> <li>• Quizzing Club awarded <b>2<sup>nd</sup> Best Cultural Club</b> due to the successful organisation of Nihilanth</li> </ul>
<b>Representative, Quizzing Club 2004-5</b>	<ul style="list-style-type: none"> <li>• <b>Led Karakoram Hostel to win the Quizzing Club Trophy</b></li> <li>• Awarded "<b>Certificate of Appreciation</b>", Quizzing Club, 2004-2005</li> </ul>
<b>Activity Head, Hospitality, Tryst '05</b>	<ul style="list-style-type: none"> <li>• Responsible for <b>accommodation, food and hospitality requirements</b> for more than 1000 participants</li> </ul>

## KEY EXTRA-CURRICULAR ACHIEVEMENTS AND AWARDS

- Awarded trophy for **Significant Contribution** to Board for Recreational and Cultural Activities, 2004-05 by Karakoram Hostel
- Part of Karakoram hostel quizzing team which has **won the quizzing trophy for 3 consecutive years**
- **Won bronze** in Inter Hostel Football Competition in 2006; member of **hostel football and tennis teams**
- **Gold Medal** awarded by St Josephs Convent School for continued academic excellence, 2000
- Other interests include reading, writing and painting

## EDUCATIONAL QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2012(expected)	B. Tech, Electrical Engineering	IIT Kanpur	8.9/10.0
2008	Class XII (CBSE)	Central Academy, Kota	87.6%
2006	Class X (CBSE)	St. Anselm's, Bhilwara	92.4%

## SUMMER INTERNSHIP

### Samsung India Software Operations, Bangalore

### Pre-Placement Offer (PPO)

(May – July 2011)

- Implemented a 256 QAM modem for 802.11ac Wireless Local Area Networks(WLAN)
- Computed an **optimal** quantizer for 256 QAM
- Implemented an algorithm which **outperformed industry trusted** results by **2.5-3 dB**
- **Suggested** a different scheme of quantization, which performed **0.5-1 dB better** than the above mentioned quantizer

## KEY ACADEMIC PROJECTS

### B. Tech Project – ‘Real Time Speech Recognition’

(July 2011 onwards)

- Designing a **real time automatic** speech recognition system for Hindi language
- Based on **Hidden Markov Model** trained on **Mel-frequency Cepstral Coefficients** extracted from the training data
- Model to be used on ‘Online Directory project’ and ‘Digital Mandi project’

### ‘Analysis of Indian Manufacturing Sector’

(July 2011 onwards)

- Analysed **efficiency** and **Factors of Productivity** using Data Envelopment Analysis and Stochastic Frontier Analysis
- Input factors like **capital inflow, labor** etc. were identified and dependence level of each was calculated
- Other factors including ‘**economic reforms**’ were also monitored to find out any possible correlation

### ‘Clustering and Indexing of Biometric Images’

(Aug – Nov 2010)

- Huge facial images database(8000 images) was **clustered** and **indexed** for fast and effective searching
- Employed dimensionality reduction using **Principal Component Analysis** and **Linear Discriminant Analysis**
- Employed **K-means clustering**; Clustered database was then indexed using **k-d trees**
- Obtained **high accuracy(96.7%)** with **low penetration rate(19.2%)** establishing the success of our method

## SCHOLASTIC ACHIEVEMENTS

- Awarded the **Summer Undergraduate Research Grant for Excellence (SURGE)** 2010 by IIT Kanpur for working on a research project at IIT Kanpur, given to only **75** students from all over India
- Awarded merit certificate for being among top **0.1%** in **CBSE (2006) class X Mathematics Examination**
- Secured All India Rank 342 (out of nearly 300,000) in the IIT-JEE 2008 (Equivalent **99.9 percentile**)
- Secured All India Rank 758 (out of nearly 600,000) in the AIEEE 2008 (Equivalent **99.9 percentile**)

## POSITIONS OF RESPONSIBILITY

### Head, Competitions (Core Team), Antaragni'11(Inter – Collegiate Cultural Festival of IITK)

(Feb 2011 onwards)

- Led a **3-tier** team of **27 coordinators, 100 secretaries**; Managed about **50** competitions belonging to varied art forms
- Introduced **new competitions** like Parliamentary Debate, Choreography and various **theme based competitions** which covers the widest range of competitions in any student festival
- Conceptualized **online competitions** like ‘Mute-Video’ to publicize Antaragni through social networking websites
- Internship at **prestigious institutions** like **Actor Prepares, Remo's Dance Academy** to be awarded to the winners
- Initiated **pre-festival** competitions to improve the quality of **on-campus participation**, like Parliamentary Debate

### Coordinator, Dance Competitions, Antaragni'10

(March – Oct 2010)

- Introduced **innovative rounds** like ‘Movie-Drama’ which saw an overwhelming response from the participants
- Colleges’ dance societies were contacted individually for the dance events for the first time, leading to an increase in **strength** and **quality** participation
- Organized **dance workshops** through **renowned professionals** in Salsa, Hip Hop, Contemporary

## EXTRA-CURRICULAR ACTIVITIES

- **Mentored 5 freshmen** and helped them get acclimatized to the environment of IITK as a **Student Guide** in **2009-10**
- Part of the overall **dance championship** winning team in Galaxy '09 (Inter- Hall Cultural Competition)
- **Won 1<sup>st</sup> prize** in the event Gear loose, Techkriti 2009, Technical Festival of IIT Kanpur
- **1<sup>st</sup> Runner up** in the event Insight, Techkriti 2011
- **2<sup>nd</sup> Runner up** in the Inter Hall Basketball Competition in Varchasva'09 ( Inter- Hall Sports Competition)
- **Assistant-Coordinator** of Hockey in Inter IIT Sports meet 2009

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- Implemented an algorithm which outperformed industry trusted results by 2.5-3 dB
- Suggested a different scheme of quantization, which performed 0.5-1 dB better than the above mentioned quantizer

### SURGE (Summer Undergraduate Research Grant for Excellence), IIT Kanpur (May – July 2011)

- Explored the relationship between the scattering coefficients of the microwave and the permittivity profile of the material
- Effectively extracted the permittivity profile using the band limited data of reflection coefficients

## KEY ACADEMIC PROJECTS

### B. Tech Project – ‘Real Time Speech Recognition’ (July 2011 onwards)

- Designing a **real time automatic** speech recognition system for Hindi language
- Based on **Hidden Markov Model** trained on **Mel-frequency Cepstral Coefficients** extracted from the training data
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- Input factors like **capital inflow**, **labor** etc. were identified and dependence level of each was calculated
- Other factors including ‘**economic reforms**’ were also monitored to find out any possible correlation

### ‘Audio Fingerprinting’ (Jan - Apr 2011)

- Project involved searching the query in the database of songs
- **Unique ‘fingerprints’** were extracted for each song in the database
- Effectively matched small clips of song in the whole database with the application of matched filter on the fingerprints created

### ‘Clustering and Indexing of Biometric Images’ (Aug – Nov 2010)

- Huge facial images database(8000 images) was **clustered** and **indexed** for fast and effective searching
- Employed dimensionality reduction using **Principal Component Analysis** and **Linear Discriminant Analysis**
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- Secured All India Rank 758 (out of nearly 600,000) in the AIEEE 2008 (Equivalent **99.9 percentile**)

## RELEVANT TECHNICAL SKILLS

- **Software** : MATLAB, Microcap
- **Languages**: Java, C, Perl

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## RELEVANT COURSES

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- Microelectronics –I, II
- Digital Communication Networks
- Speech Signal Processing
- Communication Systems
- Principles of Communication
- Digital Signal Processing
- Probability and Statistics
- Data Structures and Algorithms

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## POSITIONS OF RESPONSIBILITY

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- Led a **3-tier** team of **27 coordinators, 100 secretaries**; Managed about **50** competitions belonging to varied art forms
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## EXTRA-CURRICULAR ACTIVITIES

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- **Assistant-Coordinator** of Hockey in Inter IIT Sports meet 2009





**Civil Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: B.Tech**

**B.Tech.**  
**Male**  
**DOB: 30-08-1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	9.21

### ACADEMIC ACHIEVEMENTS

- **Department Rank-1** for the first three semesters. Currently ranked 4<sup>th</sup> (**4/102 students**) (2009-12)
- Awarded **O.P. Jindal Engineering & Management** scholarship (**100 students across India**) (2011)
- Received '**AP**' grade in **Economics**; given for exceptional performance in a subject (**4/800 students**) (2009)
- Achieved a **Branch Change** from Chemistry department to Civil Engineering (**15/800 students**) (2009)
- Pursuing a **Minor in Management** at S.J Mehta School of Management, IIT Bombay (2010-12)
- Awarded **Science Wizard Gold medal** in the National Science Olympiad (2009)
- Awarded **School Whiz kid Gold medal** in the National Cyber Olympiad (2009)

### PROFESSIONAL EXPERIENCE

**GOLDMAN SACHS INTERNATIONAL | Fixed Income, Currencies & Commodities** Bangalore (May-June 2012)

*Objective: To develop regression tests for application testing & failure reduction*

- Conceived automation tests for START (**STructuring And Reporting Tool**) used by structurers for recording deals
- Developed a first of its kind Web UI Regression Test to reduce application failure by **100% for 1000+ global users**
- Part of a 40 member global team that structured and customized a securitized product; a product is typically built of a derivative leg & a hedging leg, generating coupon payments for clients

Received a **Pre Placement Offer (PPO)** to rejoin Goldman Sachs on successful completion of the internship

**HDFC SECURITIES LTD | Sales & Trading**

Ahmedabad (June-July 2011)

*Objective: To create an alpha generating portfolio by analysis of stocks*

- Assisted research analysts in **Fundamental and Technical Analysis** of stocks and derivatives
- Presented analysis on "**How to pick a stock**" for sectors like Banking, FMCG, Auto-Ancillary and IT
- Handpicked stocks **generated 5% alpha** with the Nifty as the base index

**DELOITTE TOUCHE TOHMATSU INDIA | Financial Advisory Services**

Ahmedabad (May-June 2010)

*Objective: Sourcing and due diligence of target Indian steel companies for a German client*

- Liaised with Deloitte Germany to source small-scale Indian steel companies for acquisition by a German client
- Assisted deputy managers in the **Due Diligence and Valuation** of the target steel company in Gujarat
- Worked on a segment accounting project for a conglomerate; suggested income reallocations and restructuring accounts that **achieved potential savings of INR 2 million**

### LEADERSHIP EXPERIENCE

**PLACEMENT MANAGER, INSTITUTE PLACEMENT TEAM**

(2012-13)

- **Student Head** of a team consisting of **90+ student coordinators**, managing **500+ companies** and responsible for placements of **1400+ students** across 19 departments and 7 programs
- Conceived Structured Reporting and Centralized Company List (CCL) that **reduced 900+ man-hours** across the team
- Initiated a first of its kind '**Preparatory Blog**' containing resources to enhance student preparation & employability
- **Spearheaded merger** of placement and internship teams to focus on securing internships for 2<sup>nd</sup> & 3<sup>rd</sup> year students
- Implemented **Deferred Placement Policy** allowing students to pursue entrepreneurship & defer placement by 2 yrs

**INSTITUTE INTERNSHIP COORDINATOR (NON-CORE)**

(2011-12)

- Sustained and built new relations with companies in the Banking, FMCG and Consulting sectors (Non-Core) that resulted in **120+ internships**: a **150% Y-o-Y growth**
- Provided **650+ internships** as a team: a **90% Y-o-Y growth**

**CAMPUS AMBASSADOR-LET ME KNOW | India's largest web portal for youth opportunities**

(2011-12)

- Conducted workshops and interactive sessions in IIT; chosen amongst **top 3 out of 100+ ambassadors** across India

### EXTRA CURRICULAR ACHIEVEMENTS

<b>SPEAKING SKILLS</b>	<ul style="list-style-type: none"> <li>• Awarded '<b>Outstanding Boy of the Camp</b>' with proficiencies in <b>Model United Nations Debate &amp; Declamation</b> at the Senior Leadership Camp: Level-4 of Leadership Camps</li> </ul>	(2007)
<b>SPORTS</b>	<ul style="list-style-type: none"> <li>• <b>National Level Table Tennis player</b>; Seeded 8<sup>th</sup> in Ahmedabad &amp; 16<sup>th</sup> in Gujarat in U-16 cat.</li> </ul>	(2007)
<b>MUSIC &amp; ARTS</b>	<ul style="list-style-type: none"> <li>• Trained in playing the musical instrument <b>Tabla</b> for 4 years; cleared level-2 exam</li> <li>• Achieved <b>Grade 'A'</b> in Intermediate Drawing Exam (Govt. of Gujarat)</li> </ul>	(2007) (2006)

**Indian Institute of Technology**  
**Employment Application Form for Campus Selection:**

<b>Roll No.</b>		<b>Batch</b>	2006
<b>Department</b>	Chemical Engineering	<b>Program</b>	B.Tech.
<b>Specialization</b>			
<b>Name</b>	Archit Choudhary	<b>Date of Birth</b>	13-11-1984
<b>Sex</b>	Male	<b>Nationality</b>	Indian

<b>Examination</b>	<b>University</b>	<b>Institute</b>	<b>Year</b>	<b>CPI / %</b>
Graduation	IIT Bombay	IIT Bombay	2006	7.55
Intermediate/+2	C.B.S.E.	Choithram School	2002	81.00
Matriculation	C.B.S.E.	Choithram School	2000	84.00

**SCHOLASTIC ACHIEVEMENTS**

- Co-authored a research paper (during Hindustan Lever Internship) (2006)
  - Title : **Influence of Electric Field on the Hydrogen Bond Network of Water**
  - Journal : **Journal of Chemical Physics, 2006**Developed a theoretical model to describe the distribution of water molecules under the influence of an externally applied electric field and simulated data to be verified against physical data
- Awarded National Stock Exchange's certification in Financial Markets (Beginners) Module (2006)
- Placed in the **top 1%** of the appearing students in the Indian National Physics Olympiad (2002)
- Selected in the National Talent Search Examination (**N.T.S.E., 3rd Stage**) (2002)

**INTERNSHIPS**

**ASIAN PAINTS LTD.**, Sriperumbudur Plant, Chennai (May-June 06)  
"Lean Manufacturing: Reduction In Through-Put Time"

- Mapped and analysed the Value Stream Map for the complete production process using principles of **Lean Manufacturing, Just In Time, Kaizens, Muda, Kanban and Theory of Constraints**
- Suggested and **implemented changes** which led to reduction in time loss from
  - 50 to 2 min in shift change
  - 55 min to 15 min in starting of new batch
  - Up to 70% reduction in other processes like material movement

**HINDUSTAN LEVERS RESEARCH CENTRE**, Unilever Ltd., Bangalore (May-June 05)  
"Influence of Electric Field on the Hydrogen Bond Network of Water"

- Analysed data generated from developed model to extract relevant patterns and compared them to actual parameters to prove the proposed theory
- Completed the project which was **stalled for 8 months in the stipulated time of 8 weeks**
- Developed theory would be useful in correctly predicting behavior of water molecules and thus in the technology of application of electric field for cleaning clothes more effectively
- Compiled results were subsequently published in **Journal of Chemical Physics**

**HINDUSTAN PHOSPHATE PVT. LTD.**, Indore (May-July 04)  
"Improvement in physical properties of Di-Calcium Phosphate (DCP)"

- Analysed the effects of temperature, pressure and reagents through laboratory experiments on DCP
- Suggested changes like **temperature control and reagent addition** were incorporated in the process, which led to reduction in impurities and better physical characteristics of the product

**ACADEMIC PROJECTS**

**PHOSPHORIC ACID PRODUCTION** (Engineering Design Project) (July 06- April 07)

- Currently working on the design of a 20,000 MTA industry for Phosphoric Acid Production; includes complete **process design, equipment design, plant design and economic viability**



- KYOTO PROTOCOL AND LOW EMISSION FUELS** (Literature Survey) (July-Nov 05)
- Studied, in depth, the Kyoto Protocol and its **economic impact** on the world and India in particular
  - Analysed the mechanisms of **Carbon Credit Trading** and the economic opportunities it presents
  - Looked at and suggested various **alternate fuels** and the viability of their production and use in India

#### OTHER COURSE PROJECTS

- Simulated laminar flow in a cylindrical pipe with heated walls using **SCILAB** (Nov 2005)
- Calculated physical properties at Vapour Liquid Equilibrium using **MATLAB** (Apr 2005)
- Designed a Text Editor with all basic functionalities in **Fortran** (Nov 2003)
- Created a Library Database Management Application using **C++** (Mar 2001)

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#### POSITIONS OF RESPONSIBILITY

##### INSTITUTE PLACEMENT NOMINEE (B.Tech.) (2006-07)

- Leading a team of around **30 people** responsible for all placement activities of IIT Bombay with participation of around **1100 students and 200 companies**
- Playing a key role in **formulating policies, coordination, scheduling and acting as an interface** between students, authorities and companies
- Introduced numerous changes in the procedure namely **simultaneous slotting, feedback from all participating students, profile based scheduling, alumni contacting and video conferencing**
- Participating companies expected to go up to **200 from 160**; increased job diversity in terms of profile, location and remuneration in the offering

##### CORE GROUP MEMBER, MEDIA, MOOD INDIGO-05 (2005-06)

- Led a two-tiered team of around **30 students** to oversee complete media marketing and coverage of Mood Indigo, the cultural festival of IIT Bombay and the biggest one in Asia
- Worked in tandem with 23 others in the **overall conceptualization and execution** of the festival
- Executed the **biggest and maximum Media deals ever (seven)**. For the first time got **cash sponsorship** from media sponsors. Introduced new concepts like **SMS partner and Multiplex Partner**
- Received, for the first time ever, cash sponsorship from the **Times Group**
- Instrumental, along with 2 others, in generating more than **Rs 50 Lakhs**
- Extracted the maximum amount of media coverage ever for the festival (both print and television). Number of news clippings went up to **46 from around 30**

##### STUDENT MENTOR (2006-07)

- Chosen by the institute from a **1000 strong student body** as one of the 30 Student Mentors for freshmen based on **balanced extra curriculars, academic performance and mentoring skills**

##### COORDINATOR, MARKETING, MOOD INDIGO (2004-05)

- Handled pre-event dealings, branding and campus promotion for 4 sponsors; **instrumental in 2 deals**
- Selected, on the basis of work done, as the **next Core Group Member, Media** from a pool of about 25

#### OTHERS

- **Class Representative**, Chemical Eng. Dept. (85 Students) (2004-05)
- **Coordinator**, Web, Techfest (2004-05)
- **School Captain (Discipline)**, Choithram School (2001-02)

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#### EXTRA CURRICULARS

- **Winner, IIT Bombay OpenBridge** competition (2004)
  - Conducted and organised **Bridge workshops** in the institute along with the Bridge Secretary
  - Received **Special Mentions** from Hostel 13 for contribution to Sports and Performing Arts Festival
  - Played Table Tennis and Football at hostel and school level
  - Participated and won at inter college festivals. Winner, "Catch Me If You Can", **Chaos, IIM-A** (2004)
  - Won **Debating and Dramatics** events at hostel and inter school levels
  - Actively involved with **ChEA Voice**, the newsletter of Chemical Engineering Department (2004-06)
  - **Editor, School Magazine**, Choithram School Indore (2002)
  - Associated with National Social Services, IIT-B Chapter; Received Certificate of Excellence (2003-04)
  - Special interest in Computer Programming and Financial Markets
  - An avid Formula 1 and Cricket enthusiast
-



**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Computer Integrated Manufacturing**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 19-02-1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.04

#### INDUSTRIAL EXPERIENCE

**ITC LIMITED, INDIA TOBACCO DIVISION, BANGALORE**

[MAY – JUL 2011]

*Enhancing Productivity in Outsourced Activities (Contract Workers)*

- Benchmarked productivity metrics and applied effort-impact matrix to identify **priority target areas**
- Devised a road-map of work redesign and inexpensive automation solutions to **mitigate risks** from labour unrest
- Demonstrated **financial viability** of solutions by ensuring IRRs exceeded the company mandate
- Presented a long-term action plan with 4 innovative recommendations to the executive management

**Highlights:** ▪ Achieved **savings of INR 60 lakh per annum** through a **23% reduction** in man-hours  
 ▪ Awarded a **Pre-Placement Offer**; primary recommendations have been **implemented**

#### LEADERSHIP EXPERIENCE

**CHIEF EDITOR, INSIGHT, IIT BOMBAY'S STUDENT MEDIA BODY**

[APR 2011 – MAR 2012]

*Led a 3-tier team of 90 journalists to cater to 8000 students and 500 faculty members*

- Restructured the team by **establishing** an 8 member **Editorial Board**; print output **increased by 30%**
- Co-founded **IITB Broadcasting Channel** and released **105 videos** covering campus activities; initiative garnered over **30,000 views** and was featured in DNA and Mumbai Mirror
- Effected a **100% increase** in website views per day by redesigning website and adding new segments
- Persuaded authorities to increase the budget to facilitate a **40% increase** in the number of copies
- Conducted 'Journalism Workshop', 'Freshmen Competition' and 'Internship Info. Session' for the **first time** ever

**Highlight:** ▪ Awarded Institute **Organisational Colour** (17 students out of 8000)

**DEBATING SECRETARY, HOSTEL 8**

[APR 2009 – MAR 2010]

- Instilled a debating culture by initiating a debating forum; introduced 20 students to parliamentary debating
- Collaborated with top debaters across hostels to conduct 11 workshops and provide mentoring to new talent
- Hostel placed **2<sup>nd</sup>** in Institute JAM General Championship (GC) with largest participation among all hostels

**Highlights:** ▪ **Led** the hostel to the Institute Speaking League (ISL) **finals**  
 ▪ Awarded Hostel **Organisational Colour** (3 students out of 400)

**WARDEN'S NOMINEE, HOSTEL 8**

[AUG 2012 – PRESENT]

*Jointly leading a three-tier council of 32 and supervising hostel administration as the Warden's representative*

- Initiated installation of easy-to-clean vinyl flooring in 120 rooms to remedy current disrepair
- Administering construction of a multi-purpose concrete court managing a budget of INR 3.5 lakh

#### SCHOLASTIC ACHIEVEMENTS & MASTER'S THESIS

- Scored **780/800 (99 percentile)** in the GMAT Examination
- Secured **All India Rank 6** in the 4<sup>th</sup> National Cyber Olympiad, 2004
- Awarded highest grade in 3 of 6 courses completed in the fields of Management, Operations & Economics

**PROJECT RISK MANAGEMENT, MASTER'S THESIS, PROF. A.S. BABU**

[MAY 2012 – PRESENT]

- Designing a framework to support decision making in project risk management using Bayesian Belief Networks
- Aim to perform sensitivity analyses through information propagation to identify priority risk control actions

#### EXTRA-CURRICULAR ACTIVITIES & INTERESTS

<b>DEBATING/ PUBLIC SPEAKING</b>	▪ Jointly <b>headed</b> a 3-tier team of 50 to manage marketing & logistics as part of the 5 member <b>core committee</b> for the 2 <sup>nd</sup> IITB National Debate, 2010; garnered sponsorship worth INR 3.5 lakh	
	▪ Awarded consecutive Hostel <b>Cultural Special Mentions</b> for Debating	[2010, 2011]
	▪ <b>Led</b> hostel to <b>Runners-up</b> position in Institute Speaking Championship, 2011-2012	
	▪ Stood <b>4<sup>th</sup></b> in Institute JAM GC, 2009	▪ Stood <b>3<sup>rd</sup></b> in Institute Open Debate, 2008
	▪ Cleared examinations by the <b>Trinity College, London</b> in Effective Text Speaking, Effective Communication and Effective Acting with <b>3 Distinctions and 2 Merits</b>	
	▪ Taught 20 underprivileged children at <b>The Akanksha Foundation</b>	[DEC 2010, DEC 2011]
<b>MISCELLANEOUS</b>	▪ Secured <b>1<sup>st</sup> position</b> in 'Business Strategy Simulation' organised by eCell IITB	[2011]
	▪ Attended army camps at Raigad Military School, NDA Ahmednagar and NCC IITB	

**OTHER INTERESTS:** Reading (Thrillers, Fantasy), Music (Progressive Rock/Metal), Football, Distance Running

## Education

Year	Degree/ Certificate	Institute/ School, City	%age(GPA)	Rank
2003-2007	B.Tech. Electrical Engineering	Indian Institute of Technology, Delhi	<b>9.41/10</b>	<b>3<sup>rd</sup></b> in dept.
2002-2003	CBSE - AISSCE (Class XII)	Manav Sthali School, New Delhi	<b>95%</b>	<b>1<sup>st</sup></b> in school
2000-2001	CBSE – AISSE (Class X)	Manav Sthali School, New Delhi	81%	

## Scholastic Achievements

- **Topped** I.I.T.D. with a **GPA** of **10.00** on a scale of 10 in my first semester.
- All India Rank **197** in the IIT-JEE 2003.
- Recipient of the **National Talent Search Examination (NTSE) Scholarship** by NCERT since 2001
- Finished among the top 50 students nationwide in **Indian National Physics Olympiad 2003**. Member of Orientation cum Selection camp for **International Physics Olympiad 2003**.
- **National finalist, Indian National Mathematical Olympiad** – one of 30 students from CBSE-affiliated schools all over India for two consecutive years, **2002** and **2003**.
- Winner of 3 Gold medals and in the annual Mathematics Olympiad held in Manav Sthali School between 1997 & 2003.
- Awarded the title of ‘**Manav Shreyas**’ (Best Outgoing Student) by my alma mater in recognition of my academic and co-curricular achievements.
- Awarded the prestigious ‘**Brij Mohan Lal**’ Merit scholarship in 2003.
- Awarded ‘**Guru Nanak Trust**’ scholarship in 2004 for continued academic excellence.
- **Winner**, special prize, **C++ Software Design** in the **International Macfair’01** organized by City Montessori Group (U.P.)

## Cultural Exchange Program

- One of 2 students to represent IITD at the *Ecole des Mines de Nantes, France (2005-06)*.
- Awarded **Incentive** scholarship by the **French Embassy** and **EGIDE**, *Agency for International students in France*
- Secured **Institute Rank 3** with an aggregate of **15.44/20**, **in spite of the medium of instruction being French**.
- Member, **Robotics Club** in EMN and helped them in designing their strategy for ‘*Eurobot 2006*’ competition.
- Interacted and worked on projects with students of different nationalities.

## Summer Internship Experience

- **IT- Analyst, Equities** division of **UBS-AG**, Hong Kong **Duration:** May - July 2006
  - Created a web-based application storing **market share** data of **UBS** in the various markets of Asia Pacific region. I created a database which retrieved data of individual markets and accumulated these data into a single schema into which users could query and retrieve data as per requirements from the website I had created as the application’s front-end.
  - This **project** was a **critical** tool required by the management to monitor their performance in the entire APAC region.
  - The project had been commissioned twice earlier but was not completed. I **started the project from scratch and got it fully operational** during the internship.

## Academic Projects

- **B.Tech. Major Project**
  - Objective: **Object recognition in Videos** **Duration:** August 2006 - Present
  - Project Guide: Prof. Santanu Chaudhary
  - The aim of the project is to **recognize an object** in a video **without** having any prior **knowledge of the video**’s contents.
  - This project has many applications such as querying videos using images rather than title of the videos as used now and also for security purposes like detecting objects in X-Ray images in airports.
- **International ROBOCON 2005 - 2007:**
  - **Robocon** is an annual robotics competition in which robots duel and try to finish a predefined task at the earliest.
  - Designing the strategy and assisting in managing a team of 10 students working for Robocon-2007.
  - Worked on Digital Components including PIC Microcontroller, DACs and different types of sensors, comparators and amplifiers. It has been a great learning experience helping me improve my team working and leadership skills.

- We have been consistently performing well, finishing **quarter-finalists** in 2005 and **semi-finalists** last year among 30 teams and winning the best '**Manual Robot**' award in the national competition which selects the team representing India.

### ***Positions of responsibility***

- **Infrastructure Coordinator**, inter **IIT-IIM** Quiz festival **NIHILANTH-2005** organized by IIT Delhi in Feb 2005.
  - In a team of 15 people who successfully organized the event over two days.
  - First of its kind event organized in IITD where over 150 students from 8 IITs and IIMs took part.
  - Our team took the initiative when IIT Madras withdrew and thus helped make Nihilanth become an annual festival.
- **Quizzing Club Representative**, Vindhyachal hostel, I.I.T. Delhi for the year 2004-2005.
  - Quizzing Club voted as the **second best club** in B.R.C.A during my tenure.
  - Ensured proper preparation of Hostel team for the events and focused on grooming of fresh talents
  - Led my hostel to the 3rd position in the club garnering more than 100 points, helping my hostel come second in B.R.C.A
- **Robotics Club**: One of the 8 founding members of the club in 2006
  - First fully functional technical recreational activities club in IITD with over 30 members.
  - Regularly organizing events to make more people aware of the club and popularizing robotics in IIT.
- **3rd Year Representative, House Working Committee, Vindhyachal House, 2006-07**
  - Actively participated in the highest decision making body at hostel level with suggestions
  - Hostel won the 'Board for Hostel Management' (**BHM**) Trophy
- Logistics Coordinator (Electrical Engineering) in **I<sup>2</sup>Tech 2005**, the IITD Open House.
- Organizing member of the joint **Student-Faculty-Alumni Anti- reservation** rally on 8<sup>th</sup> October, 2006.

### ***Extra Curricular Activities***

- **Quizzing**
  - **Winner**, Zoom In, Inter College Audio/Video Quiz, Rendezvous 2006.
  - **Winner**, Olympia, Inter-College Sports Quiz in Sportech 2004.
  - **Quizmaster**, Sphinx, Inter College General Quiz in Rendezvous 2005.
  - **Quizmaster**, Inter-College Sports Quiz in Tryst 2006.
  - Represented IIT Delhi for two consecutive years in the Inter IIT-IIM Quiz festival **NIHILANTH-2005** and 2006.
  - **Runner-up**, **All Asia Bournvita Quiz Contest** 1999 among **10000** schools participating from 6 different countries.
- **Other Cultural Activities**
  - Runner Up, Word Games organized in Rendezvous 2004.
  - Runner-Up, Treasure Hunt organized in Rendezvous 2004.
  - Won numerous literary events organized by English Debating & Literary Club and Hindi Samiti at IITD for last 3 years.
  - Involved with the activities of environment-friendly N.G.O. TERI from 2000-2002.
- **Language Skills**
  - Expert proficiency in English, Hindi
  - Fluent in **French**, having studied in France
- **Computers and Software Skills**
  - Programming languages like C, SQL, C++, JAVA, JSP, UNIX and HTML
  - **Electronics softwares** like Eagle & Board Master, MPLAB, PSpice, Code Composer Studio, Xilinx
  - **Optimization Tools** like LINGO, Minitab and ExpressMP.
- **Sports Activities**
  - **2003-04**: Member of the silver medal winning Athletics team of my hostel (Long Jump, 200m Sprint).
  - Regular member of Cricket team of my hostel.

### ***Other Interests and hobbies***

- Rock climbing, Capoeira, Sudoku, Table Tennis.

## EDUCATION:

Year	Degree/Certificate	Institute/School, City	CGPA / %
2002 – Till Date	Dual Degree Programme in Chemical Engineering	Indian Institute of Technology, Delhi	M.Tech.: 8.75/10 Overall : 7.43/10
2002	CBSE - AISSE (Class XII)	Sardar Patel Vidyalaya, New Delhi	92.6 % ( <b>class topper</b> )
2000	CBSE - AISSE (Class X)	Center Point School, Nagpur	91.0% ( <b>class topper</b> )

## ACADEMIC ACHIEVEMENTS

- **Consistent CGPA & Rank increase every semester** from 1st year onwards
- Secured **All India Rank - 29 and North India rank 2** in **Graduate Aptitude Test in Engineering, 2005**
- Recipient of the **Tata Steel Millennium Scholarship, 2002** awarded to only **10 students from all over India**
- Received **Merit awards** from **Class 1 – Class 12** for securing more than 90%
- Awarded **Best All-Rounder in Class 10<sup>th</sup>**

## MAJOR ACADEMIC PROJECTS

- **Dual Gamma Source Densitometry in Slurry Bubble column (Masters' Thesis)** *Jan 2006- Present*
  - Developed and designed the densitometry apparatus using two gamma ray sources for examining a three phase column instead of the regular one gamma ray source and two phase column
  - Technology being used for the **first time** and hence is **path breaking in the field of Multi Phase Flows**
- **Enhancing the gas hold-up in a bubble column using vibrating internals** *July 2006 - Present*
  - **Increased the gas hold-up by 130% without the use of any extra energy source**
  - Results have been sent for publication

## SUMMER TRAINING

**Organization: Indian Oil Corporation Limited, Panipat, Haryana** *May- August 2005*

- **Increased the desalter efficiency by 5.5%** by introducing a static mixture which helps in the process of de-emulsification thus **lowering the manufacturing cost of gasoline**
- The suggestion is being **considered for implementation by IOCL**

## POSITIONS OF RESPONSIBILITY

**Director and Choreographer, Lifestyles, Rendezvous 2005** (IIT Delhi's Cultural Festival)

- **Led a team of 25 models and 10 artists** to win the **2<sup>nd</sup> position**
- Designed all the costumes for the team on a shoe-string budget

**Events Coordinator, Tryst 2006** (Technical Festival of IIT Delhi)

- **Synchronized the working** of the logistics, marketing and publicity teams to organize Coherence, the laser show, for the first time in a closed enclosure
- **Coordinated and arranged** for the Professional Play i.e. spoke to the professionals and negotiated the price

**Organising Team, CHEMCON 2005** (International Conference organized by the Indian Institute of Chemical Engg)

- Was incharge of the slotting and co-ordination for the various seminars involving delegates from world over

**Representative, Quizzing Club, Kailash Hostel, 2003-04**

- Significantly improved the standing of the hostel in the club as compared to previous years

## KEY EXTRA-CURRICULAR ACTIVITIES

- **Dramatics and Theatre**
  - **Lead actress** in 'Chainpur Ki Dastaan' a **professional play**, produced by the theatre group 'Natwa', with **widely appreciated and well attended performances at theatres all over Delhi**
  - Won the following prizes in the Inter-College English Play Competitions in Rendezvous
    - **Best Actress** in 2003
    - **2nd Best Play** in 2004 & 2005
  - **Acted in the movie 'IIT ROX'**, produced by the students of IIT Delhi, **an unprecedented effort**
  - Directed and acted in the Inter-Hostel English Play Competition from 2003 to 2005 **bagging the top 3 position each time**
- **Fashion Shows and Modelling**
  - Selected to be **featured on the cover page of Aspire, India Today's monthly magazine**
  - Participated and handled the choreography and costumes in the Inter-College Fashion Show Competitions held during Rendezvous from 2003-2006 **winning the one of the top 2 positions each time**
- **Awards received in recognition**
  - **Outstanding Contribution to Cultural Activities, Kailash Hostel (2006)**
  - **Most Enthusiatic Fresher, Kailash Hostel (2003)**

## VOLUNTARY WORK

- Taught 10-15 children aged 6-8 years from slum areas surrounding IITD at **Pragya**, a student-run school at IIT Delhi. Worked on strategies to ensure better attendance
- Aided in the functioning of an old age home through a voluntary organization called 'Instil'

### **Entrepreneurial Initiative**

- **Founder**, Hellointern.com, India's first exclusive classified website for student internships [2006 – till now]
- **Winner**, National level “**Best Student Enterprise of the Year – 2007**” Contest (amongst the 50 finalist start-ups) organized by NITIE, Mumbai [2007]
  - **Invited** as a guest-speaker at the “E-Boost Lecture Series” organized by SP Jain Institute of Management & Research, Mumbai [2008]
- Convinced over **120 Companies** to list their internship positions, including Kimberly-Clark, Qualcomm
- More than **7000 student profiles** registered; Coverage in five National print-media articles including that in Hindustan Times and a **7-page exclusive** in the “Young Entrepreneur” section of the magazine – SMEWorld

### **Positions of responsibility**

<b>Position/ Organization</b>	<b>Period</b>	<b>Key Achievements</b>
<b>Convener</b> , Institute Academic Reforms Committee – led by Dean, Academic Affairs	2008 till date	<ul style="list-style-type: none"> <li>• <b>Selected &amp; Leading</b> a team of 10 meritorious students, working towards a Report with suggestions to improve the Academic Curriculum and support system at IIT Bombay (to be released in 2009)</li> <li>• Personally <b>interviewed</b> about 20 Professors and collected feedback from more than 35 Alumni, so far</li> </ul>
<b>Head</b> , Department Academic Mentorship Program, Mechanical Engineering Dept., IIT Bombay	2008 till date	<ul style="list-style-type: none"> <li>• <b>Spearheaded the initiative</b> in the department, given the increase in support-needs especially for first-year students</li> <li>• <b>Selected</b> 15 meritorious students to lead the core team with help from department faculties &amp; <b>ensured</b> that a faculty advisor is allocated to the program</li> <li>• Currently, the team has <b>identified and reported 14 problem cases</b> in the first 3 months of operation</li> </ul>
<b>Mentor</b> , Institute Student Mentor Program, IIT Bombay	2008 till date	<ul style="list-style-type: none"> <li>• <b>One of the 60 student mentors</b> chosen out of a pool of about 1400 students by Dean – Student Affairs</li> <li>• Responsible for mentoring a group of 8 freshmen and ensuring a smooth transition to IIT Bombay</li> </ul>
<b>Manager</b> , Corporate Relations and International Alliances, The Entrepreneurship Cell, IIT Bombay	2006-2007	<ul style="list-style-type: none"> <li>• <b>Spearheaded the Collaboration</b> of Ecell with STANFORD-ATI to organize &amp; host the <b>4<sup>th</sup> Global Entrepreneurship Summit</b> in Mumbai, attended by around 40 corporate honchos including Mr. Uday Kotak, Mrs. Tina Ambani. – This was the first-ever international alliance of its kind by any student body of IIT Bombay</li> <li>• One of the <b>4 members</b> of the team which conceptualized and launched <b>Global Entrepreneurship Network</b> - an online network of World's Premier Student Entrepreneurship Clubs including that of IITs, IIMs, Stanford, NUS.</li> <li>• Headed the Corporate Communications for this online network &amp; formed its Corporate and VC Panel by successfully registering about <b>105 CEOs/eminent Entrepreneurs</b> and <b>25 VC firms</b></li> <li>• Represented Ecell, IIT Bombay &amp; won the first runners-up trophy in the Finals of <b>NEN-Microsite Contest</b> at Bangalore</li> </ul>
<b>Core-group Member</b> , International Seminar on Entrepreneurship, School of Management, IIT Bombay	2005-2006	<ul style="list-style-type: none"> <li>• <b>Only Undergraduate Member</b> in the 12 member core team which conceptualized, planned and executed the seminar attended by more than 1,000 students and 200 faculties</li> <li>• <b>Generated a Sponsorship of Rs. 1,00,000</b> for the event</li> </ul>



## Internships

### **Institute of Microsystem Technology, Freiburg, Germany**

[May-July 2007]

- Worked and **developed new techniques** to simulate “Polymer debinding process using Finite Element Method”
- **Published and presented** a poster at the IMTEK’s Annual Poster Conference – 2007
- Earned **Performance Bonus** for the work

### **Honda-Siel Cars Limited, Greater Noida, India**

[June-July 2006]

- Part of the Engines-Assembly team that **prepared the Civic Operation Standards Manual**
- **Designed** a worker-friendly technology comparison chart & got it approved for display in Shop-Floor Area

### **CNBC-TV18, Mumbai, India**

[May-June 2006]

- **Independently produced** a 3-minute tech. story on the “Tech Show” – rated as the **top story of the week**
- Co-produced three other stories (two for CNBC and one for CNN-IBN)

### **Airtel Corporate Office, New Delhi, India**

[May-June 2005]

- Part of the Network team that worked on the Business Continuity Plan for PAN-India
- **Ensured timely completion** of the sourcing project by following-up with OEMs for two months

## Key Academic Projects

### **Dual Degree Thesis: MEMS-based Mechanical Logic Devices, under Prof. C. Amarnath**

[Ongoing]

- Working towards coming up with new designs & applications of compliant monolithic mechanical logic-gates
- The proposed alternative mechanical designs would even work in harsh temperature & radiation environments where their electronic counterparts fail

### **Undergraduate Research Opportunity Program (UROP-I): Design of Micro-fluidic channels**

[Jan-Dec 2006]

- Fabricated micro-channels on an alumina substrate using a unique Excimer Laser Ablation process in the SM MEMS facility at IIT Bombay – a leading MEMS laboratory in India
- Fabricated micro-channels on a plexi-glass material using the CNC Micro-milling machine

### **Design Project: Chassis Design for a low-floor mini-bus for campus use**

[Aug - Apr 2008]

- Worked with a team of 17 students & representatives from TATA Motors to design a new-age chassis for the campus Mini-Bus
- New design would provide for significantly better strength/weight ratio and enable lowering the floor height

## Key Extra-Curricular Activities / Interests

### **Business Plan / Strategy Competitions**

- **Ranked 3<sup>rd</sup>** in PAN-IIT **Business Plan** competition (out of 150 teams) organized by Bain & Company and IIT Delhi. Won a **Cash-Prize of INR 50,000** and an annual HBR Subscription [2008]
- **Finalist** (amongst Top 5 out of 200 entries), only undergraduate student team in Top 10, in International Level **Business Strategy** Competition organized by SJM School of Management, IIT-Bombay [2007]

### **Technology**

- **Technology Secretary**, Hostel – 13, IIT Bombay [2005-2006]
- **Took the initiative** to start Hostel’s Tech-Bank and Tech-Room (**both, best equipped amongst all hostels**)
- **Jury Member**, *Mech-a-Boolean* Competition (with about 200 entries) at Techfest, IIT Bombay [2008]

### **Others**

- **Special interest in Economics**, Have undertaken 4 economics courses and an elective in Corporate Strategy and Management Principles, each (Grade: highest grade in all courses)
- **Ranked 2<sup>nd</sup> in Rajasthan (out of 53 Schools)** in KVS Regional English Elocution Competition [2001]
- **Ranked 8<sup>th</sup> in India** in National Science **Olympiad** [2002]





**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Honors & Minor in Bioengineering**

**B.Tech.**  
**Male**  
**DOB: 13-Jul-1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.28

### SCHOLASTIC ACHIEVEMENTS & INTERNATIONAL CONFERENCES

- **Co-Authoring** a research paper on Ti Alloys to be presented at TMS Conference 2013, USA [2012]
- Abstract on "Micropillars" **published** in NIMS International Conference, Japan; World's top 100 abstracts [2012]
- One of 50 students worldwide to be awarded **Student Researcher Fellowship** by NIMS, Japan [2012]
- Awarded **Governor's Gold Medal** for exceptional performance in ICSE Examinations (Class 10) [2007]

### INTERNSHIPS & ACADEMIC PROJECTS

**RESEARCH FELLOW, NATIONAL INSTITUTE FOR MATERIALS SCIENCE, JAPAN** [May '12 – Jul '12]

Received **Letter of Recommendation**

- Discovered a **new ternary Ti-Pd alloy** for sophisticated components of Turbine Engines for aerospace applications
- Proposed **research on 4 new alloys** after systematic analysis, currently being pursued by research group in Japan

**FOUNDING MEMBER, AEROGEL SYNTHESIS PROJECT, IIT BOMBAY** [May '11 – Present]

- Working in a team of 5 to produce aerogel on a shoestring budget of **INR 25000**; first attempt at UG level in India
- Developed an improvised **prototype supercritical dryer** currently being tested at high pressure & temperature; will be used to produce Aerogel – least dense substance known with excellent thermal resistance

**DENTAL GLASS CERAMICS, SENIOR THESIS, IIT BOMBAY** [Jul '12 – Present]

- Conducting joint study with renowned dentists; looking at Glass Ceramic as alternative to Zirconia Dental Implant

### POSITIONS OF RESPONSIBILITY

**CORE GROUP MEMBER, COMPETITIONS, MOOD INDIGO** [Mar '11 – Feb '12]

*Led a 2-tier team of 150 volunteers to conceive & execute 45+ events for 7000 participants from 700 colleges*

#### KEY INITIATIVES :

- Pioneered '**Choreography Night**', Mood Indigo's Dance Festival, with participation of **1500+ participants**
- Initiated an automated online registration system, reducing the **registration time by 85%** from previous editions
- Spearheaded '**Live Your Dream**' Campaign; provided a professional launch pad for winners
- Raised sponsorship of **INR 7 lac** by associating with **cultural organizations & corporates** like NCPA, Radio Mirchi

#### IMPACT :

- Formulated participant targeted publicity campaigns & orientations, achieving **30% y-o-y growth** in participation
- Initiated outstation Contingent Leaders' meet; resulting in **25 new outstation colleges**.
- Executed Aagaaz- multi city street play events in Mumbai, Delhi, Pune with **70+ teams** viewed by **9000+ audience**

**ACADEMIC MENTOR, DEPARTMENT ACADEMIC MENTORSHIP PROGRAM** [Jul '11 – Present]

- Serving on a panel of 20 mentors to undertake curriculum restructuring
- Solving the academic and social issues of assigned sophomore and junior undergraduate students

**WEB SECRETARY, DEPT OF METALLURGICAL ENGINEERING & MATERIALS SCIENCE** [Mar '10 – Feb '11]

- Constructed a new dynamic website with real time updates which recorded 10,000+ hits – an all time high
- Awarded **Dept. Organizational Special Mention** for impeccable development and maintenance of the website

### EXTRA CURRICULAR ACTIVITIES

- **Editor**, Mirage, Mood Indigo's Newsletter distributed to 30000 students in 150 colleges
- Won **10+ inter collegiate events** in Literary Arts:
  - **1<sup>st</sup> Place** in Potpourri at IIM – Ahmadabad's **Chaos'11, Bournvita Quiz Contest** [2005],
  - **3<sup>rd</sup> Place** in Materials Quiz at Padarth 2010, Online Quiz - Padarth 2012

**Web Design** ▪ Designed websites for Mood Indigo receiving 2 million hits from 118 countries

- Also developed websites for Dept of MEMS, Jay Hospital and Dental Clinic, Thane

**Community Development** ▪ Conducted workshops in Pottery, Origami, Dance, Painting & Career Awareness at 5 shelter homes involving 800 students in Mumbai with NGO, 'Make a Difference'

- Undertook **6000** strong signature campaign in association with TFI to support RTE Act

**Adventures & Hobbies** ▪ Completed a PADI Certified Discover **Scuba Diving** Course (2012), Hiking: Mt. Fuji in Japan

- Passionate Numismatist, Philatelist; Currently pursuing culinary arts.



**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Metallurgical Process Engg.**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: August 10, 1988**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.05
Intermediate/+2	CBSE	Birla Sr. Sec. School, Pilani	2006	84.20
Matriculation	CBSE	Birla Sr. Sec. School, Pilani	2004	84.40

#### AWARDS AND RECOGNITIONS

- Only student invited to be a **member of the Advisory Council** of IIT Bombay Alumni Association (IITBAA) to guide the association and bring strong support and distinction to its initiatives [2011]
- Awarded **Institute Organizational Colour** (1 out of 10 recipients from over 6000 students) for exceptional organizational work throughout the year as Institute Secretary, Alumni Affairs [2010]
- Awarded **Scroll of Honour** by IITBAA for my contribution as one of its Directors [2011]
- Brand Ambassador**, IIT Bombay at PAN IIT GLOBAL CONFERENCE, New Delhi [2010]
  - Only student nominated by the Director to represent IIT Bombay at the global conference
  - Addressed over 500 eminent IIT alumni explaining all key initiatives taken by Student Alumni Relations Cell (SARC) drawing their attention at the needs of the institute and the students
- 1 of 2 students to represent IIT Bombay at **Education Energy Environment (EEE) Conference**, Goa [2010]
- Awarded '**Best Student**' for excellent overall record at Birla Senior Secondary School, Pilani [2005]

#### INTERNSHIP EXPERIENCES

##### OHIO STATE UNIVERSITY-COLUMBUS, OHIO (USA)

[June 2011-August 2011]

Research Scholar, Centre for Emergent Materials (CEM)

- Increased **efficiency by 20%** of jet turbine engines by allowing high operating temperatures of 2000 K (**50% higher**) using ceramic blades with Ytterbium Mono-silicate barrier coating on it
- Developed a process** to synthesize **97% dense** Ytterbium Mono-silicate coating, a promising ceramic material for 'Environmental Barrier Coatings' to protect ceramic based turbine blades in jet engines
- Simulated jet turbine engine conditions and tested samples under different environmental conditions
- Investigated behaviour of coating using Scanning Electron Microscope and X-ray diffraction technique

##### ADITYA BIRLA SCIENCE AND TECHNOLOGY COMPANY, MUMBAI

[May 2010-July 2010]

Summer Internee, Aluminium Downstream

- Synthesized 'Titanium carbide aluminium matrix composite' with hardness and tensile properties comparable to steel resulting in **weight reduction of 40%** in automobile components
- Worked on first of its kind, "**Blower**" technique (patented by company) to establish uniformity in mechanical properties and to gain cost and time advantage over traditional "Stirrer" method

##### BHARAT HEAVY ELECTRICALS LTD., BHOPAL

[May 2009-June 2009]

Vocational Trainee, Foundry and Fabrication Department

- Increased production by **5% (500 tons)** by suggesting changes in processes to improve the efficiency
- Acquired hands-on experience on various melting techniques: Smelting, Electric Arc Furnace

#### LEADERSHIP EXPERIENCES

##### OVERALL COORDINATOR, STUDENT ALUMNI RELATIONS CELL (SARC)

[April 2010-March 2011]

Selected by panel consisting of Deans, ex-office holders and 6 SARC core team members

- Led **India's largest student body** promoting student alumni relations with a 3-tier team of 7 core team members and 150 volunteers, working alongside IITB Heritage Fund & IITB Alumni Association
- Drafted the **Constitution** of SARC establishing it as an Institute body
- Formed and led a team of 8 members for **Alumni Student Mentorship Program**, first such program across all IITs; **Launched** its 2<sup>nd</sup> and 3<sup>rd</sup> phase with 200 alumni (**3 fold increase**) benefitting over **500 students**

##### Key Initiatives:

- Conceptualized and carried out **Student Alumni Meet**, first such event in history of IIT Bombay involving mass participation from both students and alumni
- Mentored **Alumni Cell of IIT Kharagpur** to launch its Mentorship Program based on ASMP
- Initiated Search-a-thon, a 10 day long drive to update alumni database establishing 150 alumni contacts
- Created a platform Alumni-Student blog for exchange of ideas between students and alumni

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**INSTITUTE SECRETARY, ALUMNI AFFAIRS***[April 2010-March 2011]**Elected by the student community (6000 students) of the institute to the highest student office under Dean Alumni*

- Led a team of 13 hostel and 10 department alumni secretaries to carry out alumni activities in the institute
- Expanded Hostel Alumni Team Stewardship (**HATS**), an initiative to raise funds for mess workers and hostel infrastructure from **2 to 10 hostels** and raised a corpus of **INR 20 Million** (5 fold increase)
- Organized Silver Jubilee Reunion of 1985 batch (300+ attendees) along with reunions of 1970 and 1975 batch

**Key Initiatives:**

- Conducted the **first ever ‘Hostel Reunions’** in 10 hostels simultaneously with participation from more than **500+ alumni**, biggest alumni event so far in IIT Bombay
- Initiated a program **Student Achievement in Research and Scholarship** (STARS) to fund academic, industrial and entrepreneurial projects of students through alumni donated funds
- Formulated a program **Make Hostel My Home** (MHMH) for improving the living standards in hostels which garnered immense support for program by alumni; 3 hostels started their **Laundromat projects**

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**CORE TEAM MEMBER, STUDENT ALUMNI RELATIONS CELL***[April 2009-March 2010]**Selected to be part of 6 member team responsible to enhance student-alumni relations*

- Organized 3 Phonathons, alumni outreach program aimed to connect the institute with the alumni, invited them to join mentorship program and raised funds of over **INR 1 Million; 3 fold increase** in successful calls
- Conceptualized and initiated **Industrial Perspective Lectures** to provide industrial exposure to students
- Conducted over 10 interactive sessions by eminent alumni on varied topics to assist students

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**COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM***[April 2011-till date]**Part of an 80 member team responsible for industrial relations and campus recruitment of over 1500 students*

- Initiated talks with **100+** companies, solely responsible for handling recruitment process of visiting companies
- Explored **international job space** and focused on tie-ups with embassies in an unprecedented manner
- Coordinated Workshops and Pre-placement Talks by companies for final year students

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**COMPUTER SECRETARY, HOSTEL 9, IIT BOMBAY***[July 2008-June 2009]**Responsible for the smooth functioning of hostel network containing over 270 systems*

- Supervised the execution of **Hostel Network Revamping Project** that improved hostel network
- Introduced an Online Complaint Registration System for effective and timely redressal of complaints

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**KEY ACADEMIC PROJECTS**

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**INTERFACIAL ENERGY ANISOTROPY IN PHASE FIELD MODELLING***[May 2011-till date]**Dual Degree Dissertation*

- Simulated **phase field models** for cubic crystals to understand the impact of interface anisotropy on crystal morphological evolution during their growth
- Analysed the anisotropic interface energy of cubic crystals (FCC & BCC) and suggested a generic equation
- Studying the effect of interface anisotropy on equilibrium, non equilibrium shape of crystal using 3D models

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**B-P LAN ON SETTING UP SPORTS FABRICS MANUFACTURING PLANT***[July 2011-November 2011]**Entrepreneurship in Material Science, Course project*

- Analyzed and presented in detail-technical, financial, production, marketing and management structure aspects for setting up a plant to manufacture active sportswear fabric
- Reduced raw material cost fluctuation risks by applying hedging concepts, contango & backwardation

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**TECHNIQUE FOR MANUFACTURING LIGHT WEIGHT COMPONENTS***[July 2010-November 2010]**Junior Thesis*

- On basis of **weight reduction by 30%**, recommended use of Hydro-forming for industrial production
- Achieved lower rejection rates by optimizing process and material parameters for the products

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**EXTRA-CURRICULAR ACTIVITIES**

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<b>SPORTS</b>	▪ Member of <b>Water Polo team</b> (for 4 years) that stood <b>1<sup>ST</sup></b> in Inter hostel Swimming GC
	▪ Completed <b>Swimmathon</b> , the swimmers' marathon, of <b>140 Laps (3500 m) in 2.5 hours</b>
<b>PHOTOGRAPHY</b>	▪ Directed and scripted movie on <b>‘People building future IIT Bombay’</b> as part of course
	▪ Have a keen interest in photography and maintains a photography blog
<b>OTHERS</b>	▪ <b>Special Mention</b> in Face Painting Competition
	▪ Member of Production team, PAF 2010 that stood <b>1<sup>st</sup></b> in production and <b>1<sup>st</sup></b> overall
	▪ <b>Adventure Enthusiast:</b> Skydiving, River rafting, Rock climbing, Camping and Trekking

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**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Computer Aided Design & Automation**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 30 Nov 1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.27

### PROFESSIONAL EXPERIENCE

- THE PARTHENON GROUP, SUMMER ASSOCIATE, MUMBAI** [May'12 – Jul'12]
- **Client: Oman based Private Equity Firm** | Conducted due diligence in Omani education sector
    - Recommended inorganic growth over organic in higher education based on **financial analysis** and **client expertise**
    - Identified pecking order of 17 potential acquisition targets; client initiated acquisition talks with top 3 targets
  - **Client: Multinational Healthcare Company** | Analyzed market opportunity in healthcare automation
    - Developed a **Point of Sale strategy** by conducting industry research and more than 200 expert interviews
    - Shortlisted 15 high priority targets for market entry in automatic medication management
    - Client agreed for a **2<sup>nd</sup> time engagement** to develop a business plan for market entry in India
  - Secured **Pre-Placement Offer** based on performance within case teams

### POSITIONS OF RESPONSIBILITY

**OVERALL COORDINATOR, MOOD INDIGO 2011** [Mar'11 – Feb'12]

Led a 3-tier team of 22 core group members and 900 volunteers to organize India's largest college cultural festival

- **Raised and managed resources** worth **INR 5.3 Cr** including corporate funds, kind and media
- Spearheaded key initiatives to increase the cultural festival's **global outreach**:
  - Organized inaugural **Worldfest**, international folkdance festival, with 86 participants from 4 countries
  - Provided an opportunity to winners of rock band competition to represent India at **world finals in London** by collaborating with *Global Battle of Bands*
- Increased online media response by **125%**, through **social media campaign** with 5 mass engagement twitter events
- Persuaded authorities to landscape an area of 1.5 acres, developing a **new concert arena** with 8000 capacity

**CORE GROUP MEMBER, HOSPITALITY AND PR, MOOD INDIGO 2010** [Mar'10 – Feb'11]

Part of a 24 member core team; managed public relations & outreach program for the festival

- Conducted first ever meets for contingent leaders outside Mumbai; **doubled participation** from targeted cities
- Established the **Alumni Cell** of Mood Indigo core teams; organized inaugural reunion with over **100 attendees**
- Procured free souvenirs worth **INR 10 lakh** for more than 3000 participants by negotiating with FMCG companies

**INSTITUTE STUDENT MENTOR AND DEPARTMENT ACADEMIC MENTOR** [May'12 – Present]

Selected as Institute Student Mentor (82 out of 380 applicants) based on strong all round achievements

- Mentoring **12 freshmen** and **3** academically weak students on their academic and extra-curricular endeavors

### KEY PROJECTS

**POTABLE WATER AND SANITATION PLANNING, MANCHAR (DIST. PUNE)** [Jan'12 – Apr'12]

- Reviewed changes in resource demand due to new industries in the region by surveying 50 households
- Proposed infrastructural changes to fulfill drinking water and sanitation requirements of 35,000 residents
- Received **Letter of Appreciation** from **Govt. of Maharashtra**; project sanctioned for **Magistrate's review**

**STRESS ANALYSIS OF FABRICS, MASTER'S THESIS** [May'12 – Present]

- Investigating the mechanism of fibre damage and breakage to **reduce production losses** in textile spinning mills
- Designed a 3D model of textile fabrics using Abaqus to reveal the impact of tension on fibre elongation

### EXTRA-CURRICULAR ACTIVITIES

#### COMMUNITY SERVICE

- **Sparsh** – A campaign for upliftment of underprivileged children with NGO 'Make A Difference' [Sep'12 – Nov'12]
  - Conducted 5 workshops (vocational training and career awareness) at **5 orphanages** across Mumbai
  - Organized **slum awareness drive** to promote child education; counseled more than 800 children & parents
- **Aagaaz** – A social awareness campaign through street plays [Aug'11 – Dec'12]
  - Mobilized **public opinion** by engaging with 70 dramatics societies to stage socially relevant plays across **4 cities**
  - Received coverage by major newspapers like TOI, HT, DNA and appreciation from an **audience of 10,000**

#### MISCELLANEOUS

- Awarded **Hostel Cultural Mention** for active participation in debating general championship
- Student Journalist for Insight (IIT Bombay Student Newsletter)
- Enjoy football, travelling and adventure sports; completed a week long adventure sports camp in Turkey

## Education

Year	Degree/ Certificate	Institute/ School, City	CGPA/ %	Rank
2002-07	Dual Degree, Electrical Engg.	IIT Delhi	9.08/10	1
2002	Class XII (Maharashtra Board)	D. G. Ruparel College, Mumbai	94%	10 <sup>th</sup> in state
2000	Class X (CBSE)	The Mother's International School, New Delhi	92.6%	State merit list, 3 <sup>rd</sup> in school

## SCHOLASTIC ACHIEVEMENTS

- **Department Topper** at the end of **every semester** in IIT Delhi
- **Dean's Merit Award** for excellent academic performance for **6 semesters**
- **Scholarship** from the Ministry of Human Resource Development for **academic excellence** at IIT Delhi
- NSE's Certification in Financial Markets (NCFM), Derivatives (Dealers) Module (scored 89.5%)
- Certificates of excellence at the **Regional Mathematics Olympiad** (1998 and 1999)
- Junior Science Talent Search (**JSTS**) **scholarship** by the Directorate of Education, New Delhi, 1999
- Over **15 other scholarships** and merit certificates for **academic excellence** between 1996 and 2002

## EXCHANGE PROGRAM

- Exchange student to the **Royal Institute of Technology (KTH), Stockholm, Sweden**
  - Selected from a batch of 500 students, second out of 11 students selected
  - Completed the **Global Entrepreneurial Leadership** course offered by the **Stanford** Centre for Professional Development
    - Analyzed diverse business issues in a team comprising of students from Stanford and KTH

## KEY ACADEMIC PROJECTS

- **Summer Undergraduate Research Award (SURA), Industrial R&D Unit, IIT Delhi** *May 2003 – Jan 2004*
  - Optimized and implemented speech CODECs for VoIP phones on a Digital Signal Processor
  - Presented the results at I<sup>2</sup>Tech (IIT Delhi's annual Open House)
  - Implementation is being used by VirtualWire Technologies, New Delhi in its VoIP phones
- **Robotics Competitions, Tryst 2003 (IIT Delhi's annual technical festival)** *Feb 2003*
  - Designed a path-finder robot which was controlled through a computer
    - **Won third prize** at the Open Robotics Competition. **Youngest** participating team
  - **Won first prize** in 'Robowars', On the Spot Robot Building Competition

## Summer Internships

- **Telecommunications Research Centre (FTW) Vienna, Austria** *May 2006 – Jul 2006*
  - Designed an algorithm to **cut decoding time** of Non-Binary LDPC codes by **70%**
  - Worked in collaboration with **Samsung Electronics**
  - **Technical Paper** describing algorithms used and results obtained is under submission
  - Taking the research forward as my **Major Project** at IIT Delhi
- **University of Calgary and NeuroSilicon Inc., Calgary, Canada** *May 2005 – Jul 2005*
  - Designed analog and digital hardware for a Neuron-Stimulator in a Brain-Silicon Interface
  - Design **patented** by NeuroSilicon Inc.

## Positions of Responsibility

- **Student Head**, Department Nucleus Committee (Training and Placement) *Sep 2005 – Jul 2006*
  - Led a team of 8 students in inviting new companies and facilitating the recruitment process
  - Received certificate for **“Outstanding Contribution to the Department”**
- **Treasurer**, IEEE All-India Students Congress 2006 *Mar 2006 – Jun 2006*
  - Nominated from amongst candidates representing 14 colleges from North India
- **Event Head**, IEEE Seminars, Tryst 2006 (IIT Delhi’s annual technical festival) *Feb 2006*
  - Led a team of 6 students in organizing 2 seminars on Nanotechnology and Pattern Recognition
- **Treasurer**, IEEE IIT Delhi Student Branch *Apr 2005 – Mar 2006*
  - **Increased** student branch membership by **700%**
  - Organized the first IEEE Bi-annual Meet at IIT Delhi and several lectures and seminars
- **Activity Head, Core Competitive Events**, Tryst 2004 *Feb 2004*
  - **Introduced a new format** for the circuit design contest and **managed** more than **100 participating teams**
- **Representative**, Photography and Hobbies Society, Nilgiri Hostel *Apr 2003 – Mar 2004*
  - Part of the team which conceptualized and started the Robotics Club at IIT Delhi
- **Member**, Marketing Team, Rendezvous 2003 (IIT Delhi’s annual cultural festival) *Jul 2003 – Sep 2003*
  - **Negotiated sponsorship** worth Rs. 5,40,000 with the Indian Express, Times of India, National Thermal Power Corporation and Tata Indicom

## Extra- Curricular Activities and Awards

- **Public Speaking**
  - Second position in the **Model United Nations Summit 2004**, Lady Sri Ram College *Jan 2004*
    - National level debate organized by United Nations Development Program
    - Played a key role in drafting the final resolution
  - **Represented IIT Delhi** in parliamentary, prepared and extempore debates at **Tryst, Rendezvous, Gargi College and Lady Sri Ram College**
  - **Won several inter-hostel events** organized by the English Debating and Literary Club (EDLC)
  - **Won over 15 debates** and recitation competitions in school between 1996 and 2002
- **Vocal Music**
  - Received professional training in Hindustani Classical Music for 7 years
  - Performed several times at Matri Kala Mandir, New Delhi
  - Completed Elementary and First Year **examinations in music** from Gandharva University, Mumbai
- **National Cadet Corps**
  - Cadet of the 7<sup>th</sup> Delhi Battalion for 2 years *2002 – 2004*
  - Awarded the **“Special Leadership Qualities Award”** by IIT Delhi *Jan 2004*
  - Completed a 21-day All-India Trekking Camp at Assam *Dec 2003*
- Selected by the Student Affairs Council (SAC) to be a **Student mentor** to the junior students
- Awarded certificate for **significant contribution** to the Electrical Engineering Department
  - Actively promoted student-faculty interaction and organized several formal and informal events

## Other Interests

- Backpacked across 10 countries spread across 3 continents in 3 years
- Avid **food enthusiast**, enjoy cooking



Male

Date of Birth: 22 April, 1990

Email:

Linked

B.Tech, Civil Engineering

Indian Institute of Technology, Bombay (IITB)

CGPA: **8.79 on a scale of 10**

### KEY SCHOLASTIC ACHIEVEMENTS

- **IIT- JEE** All India Rank **1166** (out of 3,86,000) [2009]
- **AIEEE** All India Rank **952** (out of 10,00,000) [2009]
- Successfully completed **Minor Degree in Management from SJMSOM (49 out of 800 students)** [2010-2012]

### PROFESSIONAL EXPERIENCE/INTERNSHIPS

**UNIVERSITY OF CALIFORNIA, SANTA BARBARA (UCSB), USA** [May'12-Jul'12]

*Research Scholar, Guided by Prof. Michael Goodchild*

- Developed digital maps of **London underground** using **ArcGIS & ArcMap** software to facilitate further computations
- Extensively performed inter and intra line **travel time analysis** for **54 stations** (on **8 lines**) of London underground
- Proposed a model using geographic maps which could make travel time prediction **18% more efficient**
- Awarded **Certificate of Excellence** for significant contributions to the research work

**INDIAN INSTITUTE OF MANAGEMENT, AHMEDABAD (IIMA)**

[Dec'11-Jan'12]

*Winter Intern, Guided by Prof. G Raghuram*

- Investigated the upcoming **Metro rail projects** in India, concentrating mainly on factors affecting choice of gauge
- Analysed the impact of **Project Unigauge** on total track length, running track length & route length for last **21 years**
- **Co-authored** a report on 'Railway Gauges in India'; **published** as registered report of IIMA

### POSITIONS OF RESPONSIBILITY/WORK EXPERIENCE ON CAMPUS

**INSTITUTE INTERNSHIP COORDINATOR, PRACTICAL TRAINING CELL**

[May'11-Apr'12]

*Worked as a team of 25 members to streamline the internship recruitment process for more than 900 students*

- Established association with **19 new** recruiters including leading MNCs and Universities
- Achieved a **247% Y-o-Y increase** (73 from 21) in number of internship offers to students
- Increased stipend inflow by **310% Y-o-Y** (INR 33 Lacs from INR 8 Lacs) for Department of Civil Engineering
- Awarded **Institute Organisational Special Mention** for outstanding performance

**COMPANY COORDINATOR, INSTITUTE PLACEMENT TEAM**

[May'12-Apr'13]

*Worked in tandem with 38 company coordinators for campus recruitment involving 400 firms and over 1600 students*

- Initiated talks with **100+** companies; negotiated offers to **maximize benefits** to all **stakeholders**
- Channelized efforts towards Civil Engineering firms by creating strategies targeting **11 distinct** sectors

**UNDERGRADUATE TEACHING ASSISTANT, DEPARTMENT OF CIVIL ENGINEERING**

[Jan'13-Apr'13]

- Tutored a batch of **120 students** for the course on Engineering Mechanics
- Evaluated students' performance on timely basis; collaborated with the course instructor regarding teaching tactics

### MINOR DEGREE IN MANAGEMENT (SJM SCHOOL OF MANAGEMENT, IIT BOMBAY)

*Courses: Marketing, Operations, Accounting & Finance, Innovation & Entrepreneurship, HR and Project management*

**PROJECT PLANNING AND APPRAISAL: TATA NANO**

[Jul'12-Sep'12]

- Reviewed techno-economic feasibility of the project with focus on **constrained optimisation** of resources
- Delivered an improvised work breakdown structure & comprehensive **cost-resource analysis**

**MARKETING CASE STUDY: McDONALDS**

[Sep'10-Nov'10]

- Analysed marketing strategies of McDonalds; identified **customer-brand** relationship as key strength
- Conceptualized marketing plan for dummy prototype of a new **Veg burger** using **STP & SWOT** analysis

### EXTRA-CURRICULAR ACTIVITIES/INTERESTS

CULTURAL	<ul style="list-style-type: none"><li>▪ Proficient <b>Harmonica</b> player; Performed live at Birla Auditorium, Jaipur for <b>1000+</b> audience [2010]</li><li>▪ <b>3<sup>rd</sup></b> in <b>national level quiz-CivIQ</b>, organised by Aakaar (Civil Engineering festival, IIT Bombay) [2012]</li></ul>
SPORTS	<ul style="list-style-type: none"><li>▪ Performed <b>Scuba Diving</b> (40 ft. deep) &amp; Tandem <b>Skydive</b> (13k ft.) with <b>60 sec</b> of free fall</li><li>▪ <b>Fitness enthusiast</b> (Running, swimming, work out)</li></ul>





Metallurgical Engineering and Materials Science  
Indian Institute of Technology, Bombay

B.Tech.  
Male

DOB: 4 June, 1989

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	7.92
Intermediate/+2	CBSE	Gyan Bharati School, Delhi	2007	88.80
Matriculation	CBSE	Gyan Bharati School, Delhi	2005	94.20

## Internships

### UBS

Hong Kong

Sales - Equity Derivatives

May – Jul '11

- Created an **investor presentation on advanced derivatives** for the Sales team which included:
  - A description of how to trade volatility swaps, dispersion swaps, and exotic options
  - A spreadsheet automatically highlighting the most suitable **derivative trading strategies** based on market expectation and current volatility, correlation and skew conditions
- Developed a **pairs trading** model for stocks on the Hang Seng Index based on identifying correlated pairs trading a specific standard deviation away from their historical average
- Created a **trade log** tracking the PNL and exposure of a long/short Asian equities portfolio
- Collected and recapped all the cash and derivatives activity across the APAC region
- Acquired extensive experience with **VBA and Bloomberg**

### Nomura India

Mumbai

Mergers and Acquisitions – India Analytics Group

May – Jun '10

- Focused primarily on the global renewable energy industrial space
  - Assisted in maintaining the pitchbook on a **live M&A mandate** in the renewable energy sector
  - Prepared a weekly client report on the developments in this sector
- Maintained trading comparables, compiled pitch book material and updated marketing presentations for telecom firms and south-east Asian banks
- Carried out a **mock sell side pitch** of *Nordex SE*, a German wind turbine manufacturer
  - Analyzed the company, its peer group and the performance of the wind turbine industry
- Evaluated the bid price based on **DCF** modeling, an **LBO** analysis, peer group **trading comparables** analysis and **comparable transactions** analysis
- Evaluated potential bidders for *Nordex* based on operational synergies and market requirements

## Positions of Responsibility

### General Secretary, Hostel 4

Aug '11 – Present

- Elected representative** of a hostel of 600 students; **heading a 3-tier council** of 30 members
- Responsible for overseeing the maintenance, cultural and sports related functioning of the hostel; working with a total **budget of Rs. 7 lakh**
- Carried out the donation of unused cycles to an NGO for distribution to underprivileged children

### Editor, Department Technical Magazine - *Dhatuki*

Jul – Apr '11

- In charge of the editorial, design and marketing duties for *Dhatuki*
- Raised **Rs. 1 lakh in sponsorship** by coordinating with a major chemicals manufacturer

### Manager of Competitions, Department Technical Fest - *Padarth*

Jul – Apr '11

- Conceptualized and executed a series of highly successful competitions including:
  - A mechanical engineering competition where participants had to build a wooden catapult
  - An impromptu business sales pitch competition
- Awarded the **Department Organizational Color** for exceptional services to the department

## Key Academic Projects

### Characterization & Synthesis of Ceramic Body Armor – B.Tech Project

(Prof. Parag Bhargava)

Aug '10 – Present

- Experimentally analyzed the composition and physical properties of a commercial armor plate
- Synthesized an alumina armor plate using slip casting
- Working on producing tougher Zirconia doped Alumina armor plates
- Evaluating the feasibility of the manufacture of a boron carbide armor plate

### “Mechanism of Penetration in Ceramic and Metallic Body Armor” – Research Seminar

(Prof. M. P. Gururajan)

Jan – Apr '11

- Carried out a comprehensive literature review on the theories of armor penetration
- Analyzed the quasi-static and dynamic modes of armor failure on a macro-mechanical level, and the evolution of defects and brittle fracture at a micro-mechanical level in ceramics
- Studied the frictional, plastic, inertial and transverse forces during projectile impact in metals

### “Shear Thickening Fluids and Their Application in Body Armor” – Course Project

(Prof. N. Venkatramani – Entrepreneurship in Materials Engineering)

Jul – Dec '10

- Analyzed the technology and the practical applicability of this technology to body armor
- Studied the potential manufacturing, costing and demand of body armour using this technology and planned a five year mock business venture based around this technology
- Presented this in the department's “**Materials Business Plan**” competition, awarded **2<sup>nd</sup> position**

### “Phase Transformation Toughening in Ceramics” – Course Project

(Prof. S. Mallick – Ceramics and Powder Metallurgy)

Jul – Dec '10

- Analyzed the role of **phase transformation** in increasing the toughness of brittle materials
- Studied the mechanism of transformation toughening in Zirconia toughened Alumina
- Analyzed high toughness, high strength tungsten carbide based ceramic-metal composites

## Extra Curricular

### Cultural

<b>Quizzing</b>	Winner	Science and Technology Quiz, Techfest, IIT Bombay '11
	Finalist	Science and Technology Quiz, Techfest, IIT Bombay '10
	Runner-up	Inter Hostel General Championship '10
	Winner	St. Xavier's College '09
	Quarter-Finalist	All-Asia Terra Environment Quiz '03
	Quarter-Finalist	All-Asia Bournvita Quiz Competition '02

- **Drummer** for the hostel band; performed on stage in 'Goonj' - the inter-hostel music competition
- Recipient of **two hostel Cultural Special Mentions** for performances in quizzing and music events

### Sports

<b>Football</b>	Best Midfielder	Institute Football League '11
	Runner-up	Inter Hostel General Championship '10
	Member	<b>IIT Bombay Football Team '09</b>
	Member	<b>Inter-IIT football training camp '08</b>
	National Finalist	Nike National Football Tournament, Bangalore '05

- Member of the inter-hostel championship winning **squash** team
- Ran the **Mumbai Half Marathon '11** in a time of **2 hours**; training for the full marathon in Jan '12

## EDUCATION

Year	Degree/ Certificate	Institute/ School, City	CGPA/ %	Rank
2002 -present	M.Tech & B.Tech, Biochemical Engineering & Biotechnology	Indian Institute of Technology, Delhi	8.75/10	3/27
2002	A.I.S.S.C.E., CBSE, Class XII	Air Force Bal Bharti, Delhi	88.0%	2/320
2000	A.I.S.S.E., CBSE, Class X	Air Force Bal Bharti, Delhi	93.0%	1/250

## Scholastic Achievements

- NSE's Certification in Financial Markets: **Derivatives Market (91%) & Mutual Funds (Advisors) (73%)**
- **Scholarship** by Ministry of Human Resource Development for academic excellence at IIT-Delhi, 2006
- **Dean's Merit Award** for excellent academic performance (**top 7% in the batch**), IIT- Delhi 2003-04
- '**Best Student of the Year**', Air Force Bal Bharti School, 2000 & 2001
- Merit Certificate for being among the top 1 % at the **National Science Olympiad**, 1999

## INTERNSHIPS

### DSP Merrill Lynch Fund Managers, New Delhi

May - July 2006

- Introduced **new corporate clients** with net initial capital investment worth over **INR 7 crores**
- Interacted with existing clients and managed investments in **debt funds** by corporate treasuries
- **Facilitated** the launch of the New Fund Offer of a new debt product, DSPML Liquid Plus

### Arbeitsgemeinschaft für Osteosynthesefragen (AO) Research Institute, Switzerland

May - July 2005

- Studied the effect of mechanical stress on cartilage cells for developing an alternative method to cure cartilage defects
- **Publications:**
  - (a) Grad S, Li Z, Jiwrajka D, Wimmer MA, Alini M. '*Chondrocyte subpopulations respond differently to articular motion.*' 6th ICRS Symposium, Jan 8-11, 2006, San Diego, USA.
  - (b) Grad S, Li Z, Jiwrajka D, Alini M. '*Articular motion stimulates different chondrocyte subpopulations.*' 21st Annual Orthopaedic Research Meeting, Japanese Orthopaedic Association, Oct 19-20, 2006, Nagasaki, Japan

### United Nations Environment Programme (UNEP), New Delhi

Aug 2004- Feb 2005

- Assessed the monetary value of the various functions of forests and calculated their **Net Present Value** (NPV)
- Resulted in an **upward revision** in the value of the NPV charged by the *Ministry of Environment Forest* for the forest land used for various projects in the country by **almost 100%**

### The Energy and Resources Institute (TERI), New Delhi

May - July 2004

- Characterized a new bacterium for paraffin degradation, for use in oil wells as a cost saving alternative to chemical treatment.
- System successfully **implemented** in three wells of **Oil and Natural Gas Corporation (ONGC)** in Gujarat, India

## KEY ACADEMIC PROJECTS

### Master Project, IIT-Delhi

May 2006-Present

- Optimizing conditions for conversion of agricultural wastes to **cheap ethanol**, a substitute for **gasoline**
- Developing a **unique reactor** system for carrying out treatment of agricultural wastes using the Ammonia Fiber Explosion Process. Negotiating collaboration with **Reliance Industries Ltd.**

### Mini Project, IIT Delhi

July 2006 - Present

- **Modeling interest rates** (Using Matlab) using the Hull-White Trinomial Tree-building method to evaluate **bond prices** for the Indian market by using the initial term structure derived from the Indian Wholesale Debt Market

## POSITIONS OF RESPONSIBILITY

### **Director, Institute Choreography Team, IIT-Delhi**

2005

- **Conceptualized & structured**, in a group of 2, the institute choreography show- 2005 on a unique theme '*Guru Dakshina*'
- Led a team of **20 members** to the **first ever victory in 10 years** at Rendezvous 2005, the annual cultural festival, IIT-Delhi
- Led the team for **Antaragini**, the annual cultural festival of IIT Kanpur. Secured **1<sup>st</sup>** position

### **Coordinator, BIOHORIZON-2006**, a national symposium on biotechnology, IIT-Delhi

2006

- Organized a focal session on *Bioventures*, to promote entrepreneurship in biotechnology, in collaboration with the **Indian Venture Capital Association**
  - Panelists included Foreign Speakers for the **first time**
  - Participation of over **400 delegates (highest ever)** from 40 colleges
- Structured the session 'Biochemical Engineering for Environmental Remediation', collaborating with eminent scientists and scholars all over India
- Raised 15% of the total sponsorship of Rs. **4,50,000 (highest till now)** for the symposium

### **Member, Core team, BIOHORIZON-2007**: Working for the **first ever** joint Indo-Korean Symposium

## EXTRA-CURRICULAR ACTIVITIES

- Received the '**Significant Contribution to Dance & Dramatics Club**' award by Board for Recreational & Creative Activities, IIT-Delhi, 2006
- **Member, Institute Choreography Team, IIT-Delhi** 2003 & 2004
  - Secured **1<sup>st</sup> position** at Antaragini, 2003 & **2<sup>nd</sup> position** at Rendezvous, 2003 & 2004
  - Performed at Virasat, annual festival of SPIC MACAY held at IIT-Delhi
  - Secured **2<sup>nd</sup> position** at the annual cultural festival of Lady Hardinge Medical College, 2004.
- **Lead actress** in IIT-ROX, a movie directed by the IIT- Delhi Drama Society 2003 - 2005
- **Directed** and secured **2<sup>nd</sup> position** in the inter-hostel group dance competition, IIT-Delhi 2005
- Performed in a **team of 25 members** for **DanceWorx**, Ashley Lobo Dance enter 2003
- Pursued **Salsa** lessons at Institute of Hispania, Delhi Feb -Mar 2004
- Pursued **German** classes at Max Muller Bhawan Feb - April 2005
- Only fresher selected for Spectrum, the Inter-College Group Dance Competition, Rendezvous 2002
- Gained professional training in **Bharatnatyam** for two years during high school

## INTERNSHIP EXPERIENCE

### Mahindra & Mahindra, Mumbai - Materials Management Department

[May 09 - Jul 09]

- Formulated a process flow for the **1<sup>st</sup> ever mass production** of aluminum fly ash composite
- Optimized conventional stir casting method to reduce process time by 20%; increase strength by 10%
- **Initiated** and devised a cast iron **defects categorization** report to reduce future rejections
- **Designed** an **alternative stir casting** process to increase mechanical properties by 25%
- Achieved **70% reduction** in casting rejection through analyzing defects in cylinder bore
- Received **Pre Placement Offer** for exceptional results and self initiatives

### ITC Limited, Saharanpur Tobacco Plant - Primary Manufacturing Department

[Jun 08 - Jul 08]

- Parameterized the factors leading to wastage of flavor on casing and flavoring workstations
- Identified **3 additional non-compliances** as compared to company's self assessment
- Achieved **15% decrease of flavor overflow** through remodeling the piping network
- Implemented **ANOVA statistical technique** to verify quality assurance after incorporating changes
- Additionally demonstrated application of **acceptance sampling to reduce** quality control **sampling time**

## KEY PROJECTS

### Corrosion Management & Costing of Underground Oil Pipeline

[Jan 10 - Ongoing]

*Dual Degree Thesis, MEMS Department*

- Developing a management guideline for controlling and minimizing the corrosion hazards for the pipeline
- Initiated the collaboration with **Punj Lloyd and Corrosion Control Services Ltd** to incorporate Corrosion Management in **Risk Based Pipeline Integrity Management**
- Developed Internal and External Corrosion Direct Assessment sequence under the NACE guidelines
- **Projected remaining lifetime & corrosion cost** of by implementing Input/output & Bayesian model
- **Publication:** *A review study on corrosion cost estimation techniques*; **Journal:** "Coating and Anticorrosion"

### Vertical Shaft Brick Kiln (VSBK)

[Aug 09 - Sep 10]

*Centre for Technology Alternatives for Rural Areas Departmental Project*

- Studied production capacity of a VSBK pilot project, a **social entrepreneurship effort** by IIT Bombay
- Calculated the difference in efficiencies & operational cost of VSBK and the traditional process
- **Validated the economic viability** by projecting 29% increase in IRR through CDM registration
- Scrutinized project at **3 different stages** to ensure **smooth functioning** and maintaining **budget** constraints

## KEY INITIATIVES

### Project Leader – Bio Briquettes, Mind Infotech Services Ltd

[Aug 10 - Ongoing]

*A IIT Bombay Start Up with roots in rural development*

- Prepared a **self sustainable business model of Bio Briquettes**, a coal alternative, for rural development
- Analyzed the impact of using Bio Briquettes on a village development using **System Dynamic model**
- **Led a team of undergraduates** to increase the output of the existing process by 150%
- Aiming to launch the **pilot project in 8 Maharashtra villages** under Open Konkan Corridor Project, a rural development model initiated by IIT Alumni Association

## Co-Founder/ Convener, IIT Bombay Sustainability Club

[Jan 09 - July10]

*Student Club promoting sustainable practices through action and education*

- Student Representative in **Green Campus Initiative Committee**, responsible for resource allocation for clean tech & green campus projects
  - Instrumental in **consolidating a newly formed committee**; conceptualized 6 clean tech projects
  - Successfully completed **E-waste management** and **energy efficient heat pump** project in hostels
- Launched awareness campaigns in campus including Eco Ganesha and Earth Hour
- Encouraged student-industry interaction by **crafting internship opportunities** in 4 ventures

## POSITIONS OF RESPONSIBILITY

### Marketing & Operations Head, IIT Bombay Racing

[Aug 08 - Aug 09]

*Engineering motorsport team of IIT Bombay which participates in national & International competitions*

- Planned and executed the operations for 2 new projects: Baja SAE India and Formula Student UK
- Managed 5 operation responsibilities: **Marketing, Budgeting, Account, Logistics & Procurement**
- Garnered corporate sponsorship of **INR 3.5 million** for the new projects during recession hit economy
- **Organized 3 launch** of the team vehicles, with live audiences of over 5,000; managed media coverage by **12 news channels and 21 newspapers**
- Conceptualized 'Pit Stop' the **first ever** IIT Bombay Racing **quarterly Newsletter** to publicize team's achievements and highlight sponsors resulting in **50% repeat sponsors** for next year
- **Achievement during the tenure:**
  - Initiated association with **Aston University (UK) & Force India**, unprecedented for any Indian team
  - Awarded **2<sup>nd</sup> prize for Cost Report** at Baja SAE & FS UK; **3<sup>rd</sup> prize for Business presentation**
  - **Won 5 out of 7** awards at Baja SAE India and declared **Best Indian Team** at Formula Student UK

### Core Team Member, Indian Youth Climate Network Mumbai Chapter

[Jun 10-Ongoing]

*Grassroots coalition of Indian youth and organizations concerned with climate change*

- **Part of 8 member core group** to conceptualize and execute community projects and events
- **Achieved 300% membership growth** in Mumbai Chapter by conducting 8 inductions over 2 months
- Established the Climate Leadership Training in Mumbai University by integrating in their curriculum
- Revitalized IYCN flagship program, **Indian Youth Delegation Program to COP 16 Mexico**, by formulating a comprehensive publicity plan
- **Mentored 25 Maharashtra teams** in their green community projects for the **Great Power Race**, a clean tech competition between Indian, American and Chinese universities organized by IYCN
- Conceptualized **Western Region Youth Summit** in association with World Alliance of Youth Empowerment which aims at forwarding youth suggestions to the environment ministry

### Marketing and Operations Head, Nihilanth 08

[Mar 08- Sep08]

*Inter IIT-IIM quiz festival; biggest quizzing event in country*

- Generated corporate sponsorship of INR 0.6 million & managed media coverage for the **1<sup>st</sup> ever Nihilanth event in IIT Bombay**
- Single handedly lead a team of 10 volunteers to render service to the participants; **instrumental in troubleshooting** of last minute glitches leading to smooth execution

## EXTRA CURRICULAR ACTIVITIES

- Activist and Member of **350.org**; Planning and Publicizing **Global Climate Action Day 10/10/10**
- Publicizing **Acara Social Entrepreneurship competition** between American & Indian universities
- **Won 1<sup>st</sup> prize** in Padarth 2010 BPlan Competition for Business **model on innovative PVDF Speakers**
- Member, team that **won PAF'08, Dramatics General Championship '07 and '08** (1st Position)
- Member, **Choreography team** of PAF'07 that won the best choreography award
- Awarded **"A" certificate** by 2<sup>nd</sup> MAH Engineering Regiment, **National Cadet Corps (NCC)**
- **Other interests:** Travelling, Adventure sports, Dramatics, Drumming, Blogging

## EDUCATION

Year	Degree/ Certificate	Institute/ School, City	CGPA/ %	Rank
2003-present	Bachelor of Technology*	Indian Institute of Technology, Delhi	8.525/10	3
2002-2003	Class XII: CBSE- AISSCE	Army School, Chandigarh	86.2%	1
2000-2001	Class X: CBSE- AISSE	Army School, Tezpur	93.4%	1

\* Major: Textile Technology  
Minor: Business Management

### Scholastic Achievements

- Awarded the prestigious “**Rajindra Kumari Malhotra Memorial Prize**” for displaying best responsible student leadership (based on academic performance and participation in extra-curricular activities) at IIT Delhi, 2006.
- Received the **Summer Undergraduate Research Award (SURA)** granted by the Industrial Research and Development Unit, IIT-Delhi, 2005.
- Received merit awards for outstanding academic performance at IIT Delhi (**top 7%** of the batch) - Semester: IV, VI.
- Among the top 2 students to be short-listed for the prestigious “**Shashank Vikram Garg Scholarship**” for displaying all-rounder capabilities, at IIT Delhi, 2006.
- **Presented** a Technical Poster on “Super Absorbent Bandages” at IIT Delhi Open House, 2006
- Amongst the **top 1% students** in the **Chandigarh region** in Class XII, CBSE –AISSCE, 2003.
- Received **Certificate of Merit** awarded by CBSE for being amongst top 0.1% Science in Class X, 2001.
- Ranked **1<sup>st</sup>** in the **East Zone region** in Class X, CBSE-AISSE, 2001.
- Received **merit certificates** for excellence in academics from 6 to 12 standard.

### External Courses Done

- Introduction to **Intellectual Property Rights (IPR)**: Course conducted by the World Intellectual Property Organization (WIPO). Awarded certificate of excellence, 2005.

### Key Academic Projects Undertaken

- **Summer Undergraduate Research Award**, at Industrial Development and Research Unit (IRD), IIT Delhi.  
**Facilitator:** Prof. Kushal Sen, Department of Textile Technology, IIT Delhi. May 2005 – Oct 2005  
*Modified the fiber surface (polypropylene and acrylic) by grafting and plasma radiation techniques to enhance their toxic gas adsorption properties thus providing a cost effective application of textiles as industrial face masks and gas filters*
- **B.Tech Project under the Ministry of Information Technology and the Ministry of Textiles, Government of India**  
**Facilitator:** Dr. Deepthi Gupta, Department of Textile Technology, IIT Delhi August 2006 onwards  
*Development of an Apparel Sizing System for the Indian population based on statistical analysis of anthropomorphic data using optimization techniques.*  
*The proposed approach will help garment manufacturers across India in production planning and mass customization.*

## SUMMER/WINTER INTERSHIPS

**Organization:** ITC Limited  
**Period:** May 2006 – July 2006

**Department:** Lifestyle Retailing Business Division  
**Location:** Gurgaon

- **Addressed** the product quality issue of colour fading in ITC's premium clothing segment Wills Classic Men Wrinkle Free Trousers by incorporating changes after exhaustive analysis of the fibre to garment process.
- **Devised** a feedback mechanism to capture customer expectations in garment quality.

*The improved product has been incorporated in the Wills Lifestyle Spring Summer 2007 production after positive feedback received in the wearer trials and encouraging comments of the merchandisers.*

**Organization:** Pantaloon Retail India Limited  
**Period:** December 2005

**Department:** Apparel Retailing Division  
**Location:** Mumbai

- Studied the logistics of PRIL Apparel Retailing supply chain, working out the lead times for its different vendors.
- **Conducted** study on “The Apparel Retail Industry in India: SWOT Analysis of PRIL.

*Presented a report on ways to reduce mind to market time by use of technologies like Ready to Display, RFID.*



**Positions of Responsibility**

Positions Of Responsibility	Year	Key Achievements
<b>General Secretary</b> Student Affairs Council (The Highest Policy Making Body at IIT Delhi, chaired by the Director)	2006 – present	<ul style="list-style-type: none"> <li>- <b>Represent</b> the 5000 IIT students in the senate, on key academic and administrative issues.</li> <li>- <b>Conceptualized</b> and <b>implemented</b> SAC online (discussion forum)</li> <li>- <b>Incubated</b> the Entrepreneurship Development Cell</li> <li>- <b>Initiated</b> Constitutional Review.</li> </ul>
<b>Marketing Co-ordinator</b> Rendezvous-06	2006	<ul style="list-style-type: none"> <li>- <b>Led</b> the 40 member marketing team. Re-engineered the sponsorship process to create a marketing based approach involving the concept of prosumers and win-win situation for every stakeholder.</li> </ul>
<b>Chief Editor (English)</b> Board for Student Publications(BSP)	2005-06	<ul style="list-style-type: none"> <li>- <b>Led a team of 22 student representatives</b> to bring out 8 campus magazines (<b>highest ever by BSP</b>) with the inclusion of a <b>new publication</b> “IITD ke funde”.</li> <li>- <b>Organized</b> “Literati”, the 3 day inter-college literary extravaganza</li> </ul>
<b>Marketing Activity Head</b> Core Team Member : Marketing and Strategy , Rendezvous-05	2005	<ul style="list-style-type: none"> <li>- Worked right from the inception day of India’s grandest youth festival, and was involved in a variety of activities.</li> <li>- Conceptualized the mode of participation of key accounts like Hutch, SBI</li> <li>- <b>Relationship Manager</b>, Hutch, the biggest account.</li> </ul>
<b>Joint General Secretary</b> Textile Engineering Society (TES)	2005-06	<ul style="list-style-type: none"> <li>- Led a team of 20 TES secretaries, organized events and activities like trips, seminars, cultural events and managed department publications.</li> <li>- <b>Organized</b> “Antarang” the week long, annual fest of Textile department.</li> <li>- <b>Designed</b> the logo for the society.</li> </ul>
<b>Cultural Executive</b> , TES	2004-05	<ul style="list-style-type: none"> <li>- <b>Led a team of 80 people</b> and managed the cultural events.</li> </ul>
<b>Activity Head</b> Business Plan Contest Tryst 05	2005	<ul style="list-style-type: none"> <li>- <b>Led a team of 10 people</b> and organized “The Business Plan Contest”, <b>a new entrant</b> in Tryst 2005, the Annual Technical Festival of IIT Delhi</li> <li>- Following the <b>event’s success</b>, it is now a permanent event in Tryst.</li> </ul>
<b>Co-Representative</b> English Debating and Literary Club (EDLC)	2004-05	<ul style="list-style-type: none"> <li>- Generated enthusiasm among the residents to take part in EDLC events</li> <li>- <b>Led</b> my hostel to secure overall second position in EDLC.</li> </ul>
<b>Head Girl</b> (X and XII)	-	- <b>Started “Youth Parliament”</b> : A Rostrum for students to discuss concerns

**Key Awards:**

- Won the paper presentation competition at IIT Delhi for ‘**The PAN-IIT Meet 2006**’. Selected to represent IIT Delhi in the national finals at IIT Bombay.
- Received the Winner’s Trophy at ‘**Manthan – The National IPR Summit**’ at IIT Roorkee; First prizes in the Technical Paper Presentation and Case Study Competition, 2006.
- Second Runner up in “**Zephyr**”, the Inter-college Parliamentary Debate Competition held during TRYST, 2005.
- Second Runner up in “**The Parliamentary Debate**”, the biggest debating competition held in IIT Delhi, 2005.
- Second Prize for the **street play** “Log Kya Kahenge” at Rendezvous, 2004
- First Runner up in the **street play** competition at Antaragini, 2004
- Represented the Hostel at **Inter-hostel Badminton and Swimming Competitions** at IIT Delhi, 2004 & 2005.
- First Runner up at the “**National Debating Competition**”, 2001.
- Best Speaker at the “**All India DAV Schools Debating Competition**”, 2001

**Other Awards and Activities:**

- Started the **Kailash Hostel magazine** ‘Diva’, a platform for the hostel residents to give vent to their creative flair, 2006
- Received award for ‘**Significant Contribution to Hostel**’, 2005
- Received the ‘**Best incoming fresher award**’, 2004
- Winner of ‘**Miss Talented Contest**’ held at IIT Delhi, 2004.
- Worked for Indian chapter of **Association for India’s Development (AID)** -Taught the underprivileged children, Conducted fundraising event at India Habitat Centre, Marketed products made in the vocational training programs, 2005.
- Permanent member of the **Hindi Parliamentary Debate Adjudication Panel** at IIT Delhi. Adjudicated many inter college Hindi debates as chief adjudicator, 2006
- Active participant in workshops organized by NSD (National School of Dramatics).

**ABOUT ME**

**Leadership**, proficiency in **soft skills** and taking **initiative** along with bringing **energy** and **passion** to the table are my assets. An **avid traveler** I enjoy meeting people of different cultures and learning more about their traditions and lifestyles.



Aerospace Engineering  
Indian Institute of Technology, Bombay

Dual Degree (B.Tech+M.Tech.)  
Male  
DOB: 24-02-1988

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	6.94
Intermediate/+2	CBSE	DAV Public School	2006	77.80
Matriculation	CBSE	DAV Public School	2004	91.60

#### SCHOLASTIC ACHIEVEMENTS & CERTIFICATIONS

- Awarded Certificate and **Medal of Merit** for excellent Academic Performance in X board exams by C.B.S.E.
- Qualified to Phase II of **Navonmesh B-Plan Challenge** in **Avenues'10**, annual flagship event of SJM School of Management, IITB; over 200 teams registered from all over India
- Recipient of *Certificate in **Advanced Programming in C++*** awarded by IIT-Bombay under Continuing Education and Quality Improvement Programmes
- Recipient of NCFM's certificate in Derivative Markets Dealer's Module

#### ENTREPRENEURIAL EXPERIENCES

**Trendzcraft, Co-founder** [Jul'11-present]

- Conceptualised idea of business seeking untapped potential of strewed handicrafts market
- Co-founded a venture which aims at designing & marketing of handicrafts and decorative furniture providing employment opportunities to upcoming designers

**Navonmesh B-Plan Challenge, School of Management, IITB** [Sep'10-Oct'10]

- Qualified for Phase I of the event from over 200 teams registered from all over India in Avenues'10, annual business festival of SOM
- Estimated market size & potential barriers; submitted B-Plan on 'RC Aircraft for spraying insecticides and pesticides' which has a capacity of spraying 1 hectare in 12 mins

#### POSITION OF RESPONSIBILITY

**Editor and Journalist, "Aawaaz", Institute's Hindi media body** [Mar '09–Mar '10]

- Pioneered '**Top News@Campus**' which provided video coverage of institute events on Aawaaz's website
- Coordinated the **Panel Debate of candidates** contesting for **General Elections** of the Institute; floated the video coverage of the same on Aawaaz's official Website
- Handled the coverage, publicity and editing of **Performing Arts Festival(PAF)** review videos and other major events happening at IIT Bombay

**Techfest'09 Coordinator** [Aug'08-Jan'08]

- Coordinator for **Robowars** event which saw participation by over **160 colleges** all over the country and gained enormous acclaim & popularity
- Led a team of **15 organisers** for smooth functioning of the event which was conducted for the **first time**

#### SUMMER INTERNSHIPS

**Kaizen Robeconomics, Jaipur** [May'10-Jun'10]

- Constructed an autonomous robot which **senses & avoids obstacles**, using LDRs, L329D ICs & microcontrollers
- Built **line tracking sensors** and used them to construct a Line follower using Line Tracking Algorithms
- Developed a two digit counter using **7 segment LEDs and microcontrollers**

**Bharat Sanchar Nigam Limited, Alwar, Rajasthan** [Jun'09-Jul'09]

- Interacted with top officials & gained exposure in telecom sector working with BSNL, India's oldest and largest communication service provider
- Thoroughly investigated working of Wireless Local Loop(WLL), Electronic Worldwide Switch Digital (EWSD), and Broadband services.
- Investigated different softwares used for **handling database** & solving queries and **suggested alternatives**

#### SOFTWARE PROFICIENCY

- Programming Language: C, C++ , HTML, MATLAB
- General Softwares: MS Office, SolidWorks, FL Studio, AutoCAD, Sony Vegas, Movie Maker, Gimp
- Aerospace related softwares: TURBN, COMPR, Javaprop, Fluent, Gambit, Ansys, Pro-E, Catia, RDS, GasTurb

## ACADEMIC PROJECTS

### Drag Reduction & Pressure Visualization on Missile Shaped Body- *Post Graduate Dissertation* [Jul'11-present]

- Designed 3D **missile shaped** models and its attachments using **SolidWorks**
- Currently performing experiments on the model in **hypersonic shock tunnel** at Mach 8
- Future works include experimental investigation of **reduction in drag with spike** attached at various AOA
- Pressure field on model to be investigated using specially designed pressure sensors attached using taps
- Results to be verified by simulations and **Schlieren visualization technique** to aid in demonstration

### Tum-Tum tracking System [Jul'09-Nov'09]

- Conceptualised design system for tracking & transmitting the position of **public bus transport at IITB**
- Chalked down customer attributes & functional domain for tracking system & incorporated **Pugh Matrix**
- Devised an electronic tracking system based on short and long range **transmitter-receiver** systems
- Executed various stages of conceptual design such as Quantitative Function Deployment
- Realized all the components and estimated **life cycle cost** of the system to be around **₹ 3.5 lacs**

### Flow Over Forward Facing Step (FFS) [Jul'10-Nov'10]

- Demonstrated flow over FFS by simulation in **Fluent** over step meshed in **Gambit**; used K-ε turbulence model
- Modified geometry by placing a **smaller step** in front and optimized its size & position to achieve about **95% suppression of vortex** over the step hereby reduced flow resistance **upto 33%**

### Piezoelectric Transducer in Minimally Invasive Surgery(MIS) [Jan '11-Apr '11]

- Obtained typical response of two **inchworm masses**, constituted with a **PZT stack**, with an external stiffness; modelled the compliant gripper using various driving signals
- Developed the dynamic model in **Simulink**; obtained the simulation study results which propelled development of optimal driving signals for the inchworm actuator

## DESIGN PROJECTS

### Aircraft Design Specific to Indian Air-Space-150 seater subsonic civil aircraft design [Jul'10-Apr'11]

- Identified the stakeholders and drew up requirements by analysing the market appetite
- Completed the compliance analysis and consolidated the **baseline configuration** with the help of prominent scientists from **NAL & ISRO**; constructed the preliminary 3-D model
- Conceptualized and implemented novel use of '**MOGA(Multiple Objective Genetic Algorithm)**' integrated with Tornado(VLM code) in Matlab, to achieve the optimal Pareto front

### Propeller Design of Very Long Range Subsonic Aircraft [Jan '09-Apr '09]

- Designed propeller for subsonic aircraft incorporating **distributed propulsion** where thrust is produced by multiple turbo-props running along the span
- Incorporated blade element theory & achieved propeller **efficiency of 62%** for a 800 seater long range aircraft

### Compressor & Turbine Design [Jan'11-Jun'11]

- Designed first stage of LPC of **CFM56** engine using Compressor Preliminary Analysis Program (**COMPR**) & achieved **efficiency of 89%** & stage pressure ratio of 1.36
- Conceptualised axial flow multistage LPT design for LPC using Turbine Preliminary Analysis Program(**TURBN**)

### Road Fighter [July '07-Nov '07]

- Designed and developed the classic arcade game Road Fighter with simplified game idea **using OOP**
- Used front-end **Ez-Windows** graphical interface & Integrated difficulty levels, stages, bonus cars & fuel cars

## EXTRA CURRICULARS

- Performed at college festivals like **Malhar & Umang** as **bass guitarist** in band '**free spirits**'
- Design proposal selected for funding in **Boeing Student Design Project**, 2009
- Was a part of Organising team of '**Mech-a-Boolean**' event held at Techfest 2008
- As a part of Group for Rural Activities successfully conducted used-Clothes Collection Drive
- Coordinated in Zephyr'09, Annual IIT Bombay Aerospace Festival
- Studied energy management, **auditing**, concept of pinch & energy economics
- Constructed a boomerang and **secured 4<sup>th</sup> position** in Zephyr'09
- Hobbies include playing music, reading, surfing Wikipedia & playing TT



**Electrical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Communication & Signal Processing**

**Dual Degree (B.Tech+M.Tech.)**  
**Female**  
**DOB: 18/12/1989**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.50

#### INDUSTRIAL EXPERIENCE

**BARCLAYS WEALTH, MUMBAI – Business Administration** [JUN '12 – JUL '12]

- Spearheaded **3 projects** simultaneously, coordinating with **6 teams** for their implementation
  - Built portal to track document processing requests between front & back offices; **reduced Turn Around Time by 30%**
  - Enhanced client experience by devising a tool to **eliminate document redundancies**; **10%** decrease in documentation
  - Designed MS Excel prototype to dynamically **analyze client's portfolio** & recommend profitable bond transactions
- All three applications were **adopted with immediate effect** in the Mumbai office

**RELIANCE POWER, MUMBAI – New Energy Finance** [DEC '11]

- Developed financial performance analysis model for **INR 700 Cr** Solar Photovoltaic Plant; tracked metrics like DSCR, IRR
- Identified key risks in 2 major solar power purchase agreements & **formulated risk mitigation strategies** cumulating in **net savings of INR 50 Cr**; presented report to **CFO**

**PHILIPS, BANGALORE – Healthcare Innovation** [MAY '11 – JUL '11]

- Developed an **online interface** on '**Ruby on Rails**' to remotely access live and recorded Electrocardiogram graphs
- Interface included in the 'Connected Cardiac Care' package, offering state-of-the-art medical services to rural areas

#### ENTREPRENEURIAL EXPERIENCE

**MARKETING & BUSINESS DEVELOPMENT HEAD, EDUCATION EDGE INITIATIVE** [AUG '11 – PRESENT]

*Vision: A start-up for providing exposure & opportunities to school students from tier-II cities of India*

- Part of 5 member team heading 'Education Edge Magazine (EEM)'; subscribed by 500 students in Bhopal & 120 schools
- Enhanced the brand proposition of EEM by associating with **WWF, United Nations** and **INTACH** as knowledge partners
- Attained advertising revenue of **INR 2.5 Lac** by pitching EEM as a connect between education companies & students
- Forged strategic alliance with Mexus Education (2<sup>nd</sup> largest education company in India) to establish pan-India presence

#### Awards & Recognition:

- **1<sup>st</sup> in Eureka '11 (Asia's biggest B-Plan Competition)** from amongst 950+ teams; achieved seed funding of INR 4 Lac
- Invited to attend '**E-Bootcamp**' conducted by **Stanford BASES** at Stanford, U.S.A (1 of 30 international start-ups)
- Start-up story featured in national publications like Times of India, DNA, Indian Express, Mid Day

#### LEADERSHIP EXPERIENCE

**CORE GROUP MEMBER, COMPETITIONS, MOOD INDIGO (MI) 2010** [MAR '10 – JAN '11]

*Led a 2 tier team of 150 volunteers to conceptualize and execute 35 competitions on a budget of INR 11 Lac*

- Founded 'Omniscience', **Mumbai's first and only** inter-collegiate quizzing festival; received participation of over **1500**
- Organized street plays across **3 cities** as part of MI's social awareness campaign 'Aagaaz'; 60 plays, audience of 8000+
- Launched **professional mentorship** for encouraging talent; organized jam session with acclaimed band '**Strings**'
- **Promoted careers in cultural arts** through strategic associations with brands like **NCPA & Harper Collins**

Awarded **Institute Organizational Special Mention** (1 of 12 students out of 7000) for exceptional work

**CAMPUS AMBASSADOR, TEACH FOR INDIA (TFI)** [MAY '11 – FEB '12]

- Liaised with IIT-B authorities to increase TFI's awareness among final year students; **400% y-o-y increase** in applicants
- Organized a talk with Teach for America representatives & instituted '**Classroom Visits**' to promote volunteering

#### SCHOLASTIC ACHIEVEMENTS

- **Conducting original research** on the impact of energy constraints on cooperative symbiotic relaying in cognitive radio networks; optimized time incentive awarded to secondary nodes (Dual Degree Thesis)
- **First among girls in Mumbai** in IIT JEE '08 (AIR 291); awarded the **CBSE Merit Scholarship** for AIEEE '08 (AIR 195)

#### EXTRACURRICULAR ACTIVITIES

<b>CULTURAL</b>	<ul style="list-style-type: none"> <li>▪ 1<sup>st</sup> in Dumb Charades at Unmaad '09 (IIM B); 1<sup>st</sup> in Sitcoms Quiz at Umang '10 (N.M. College)</li> <li>▪ 3<sup>rd</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> in the Inter Hostel Pot Pourri Championship in '09, '10 and '11 respectively</li> <li>▪ 1<sup>st</sup> in Gyration's '09 (Inter Hostel Dance Championship); 3<sup>rd</sup> in Freshman Inter Hostel Dance Competition</li> </ul>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>▪ 2<sup>nd</sup> in App Sprint '12, a pitch contest for educational apps; <b>submitted to Intel for commercialization</b></li> <li>▪ <b>1<sup>st</sup> across India</b> in poster presentation competition at <b>Wiki Conference '11</b></li> <li>▪ 2<sup>nd</sup> in Junkyard Wars at Techfest '11; built a life-sized paddle boat from junk</li> </ul>
<b>SPORTS</b>	<ul style="list-style-type: none"> <li>▪ <b>Represented Mumbai</b> at the <b>National Junior Throwball Championship '03</b></li> <li>▪ 1<sup>st</sup> in the Inter Hostel Throwball General Championship '10</li> <li>▪ 1<sup>st</sup> in Inter Hostel Chess General Championship four times in a row, winning all games played ('08 – '11)</li> </ul>



Metallurgical Engineering and Materials Science  
Indian Institute of Technology, Bombay

B.Tech.

Male

DOB: 12/10/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.94
Intermediate/+2	HSC Board	Swami Vivekananda Jr. College	2008	86.33
Matriculation	SSC Board	Fatima High School	2006	89.60

## SUMMARY

- Demonstrated achiever with experience in financial markets and products; Sound engineering background
- Have displayed *leadership* and *initiative* through roles in various student bodies throughout school & university life
- Skilled at learning new concepts quickly, working well under pressure, and communicating ideas effectively
- Extensive computer training, including knowledge of various programming languages, operating systems and business software packages; Enthusiastic and experienced in overseas travel

## EDUCATION

Mumbai 2012	<ul style="list-style-type: none"><li>• Expected B.Tech with <i>Honors</i></li><li>• Candidate for INSTITUTE SILVER MEDAL</li><li>• Coursework: Financial Derivatives and Risk Management, Economics, Modeling &amp; Simulation, Digital Electronics, Signal Processing, Linear Algebra, Differential Equations, Numerical Methods</li></ul>	DEPARTMENT RANK: 1
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## PROFESSIONAL EXPERIENCE

Hong Kong summer 2011	<p>UBS AG Summer Intern, GLOBAL EQUITIES STRUCTURING</p> <ul style="list-style-type: none"><li>• Gained experience in exotic product pricing and structures; Worked in cohesion with a diverse team spread over the HONG KONG, SINGAPORE and TOKYO offices of UBS</li><li>• Took initiative to network and work with various colleagues from other business areas like fixed income, sales, trading, quantitative research, etc. resulting in a more developed internship experience</li><li>• Relative Rotation Curves<ul style="list-style-type: none"><li>▪ Developed an <i>innovative</i> tool to evaluate a pool of assets with respect to each other</li><li>▪ Proposed a strategy index idea based on this indicator and evaluated its performance using historical data</li><li>▪ Presented the performance (total returns ~19%, Jul' 08–11) of this tool to an audience of more than thirty, including senior executives on the trading floor; Was very well received</li></ul></li><li>• Custom Strategy Index Products<ul style="list-style-type: none"><li>▪ Focusing on custom strategy products, analyzed the performance of the EMMA (BBG : &lt;ULTAEMMA&gt;) and MARS (BBG : &lt;ULTAMARS&gt;) index and produced documentation in this respect</li><li>▪ Co-ordinated with the Sales team to provide feedback to customers holding products linked to these indices</li></ul></li></ul>	
Nasik, India summer 2010	<p>JINDAL SAW LTD. Summer Intern, QUALITY TESTING</p> <ul style="list-style-type: none"><li>• Studied the manufacturing process of seamless pipes which are important for oil and gas applications</li><li>• Gained exposure to large scale metallurgical operations – Piercing, Cold Drawing and testing practices like Eddy Current (non-destructive) testing</li><li>• Identified mechanical flaws in the manufacturing process and suggested improvement areas to reduce the rejection ratio in the testing process</li></ul>	

Mumbai 2011 – present	<p>CS101: COMPUTER PROGRAMMING AND UTILIZATION, PROF. GURURAJAN (IIT Bombay)</p> <p>Teaching Assistant</p> <ul style="list-style-type: none"> <li>• Tutored a batch of 120 first year students for this course</li> <li>• This involves supervising and mentoring students in their computer science exercises in co-ordination with a team of 12 other teaching assistants</li> <li>• Analyzed students with regards their grasping of theoretical concepts and applications; Collaborated with the course instructor regarding teaching tactics and student management strategies; Gained valuable <i>man-management</i> skills</li> <li>• Provided special lessons in Hindi to students facing problems with the English language</li> </ul>
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## POSITIONS OF RESPONSIBILITY

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2011	<p>DEPARTMENT ACADEMIC MENTOR (DAMP)</p> <ul style="list-style-type: none"> <li>• Mentored academically weak junior students to cope with challenges – academic or otherwise</li> <li>• Challenges involved motivating disinterested students, handling academic problems due to health and other personal problems, language barriers</li> <li>• Changed the mind-set and confidence levels of mentees in a friendly but persuasive manner</li> </ul>
2010–2011	<p>DESIGN SECRETARY</p> <p>Dhatuki</p> <ul style="list-style-type: none"> <li>• Dhatuki is the prestigious newsletter of the MEMS Department with a sizeable distribution in the metallurgical industry</li> <li>• Was in charge of designing the magazine and coordinating with fellow contributors to optimize content and aesthetic appeal</li> </ul>
2010	<p>CO-ORDINATOR, PRONITES</p> <p>Mood Indigo, 2010</p> <ul style="list-style-type: none"> <li>• Actively participated in the working of this cultural festival; Enjoyed working in a team and interacting with world renowned artists to make ‘Pronites’ music concerts a success</li> </ul>

## ACHIEVEMENTS

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2010, 2011	<p>AWARD FOR ACADEMIC EXCELLENCE, MEMS Department</p> <p>Holder for past two years</p> <ul style="list-style-type: none"> <li>• This is awarded to the best performer of the year in the department by the institute</li> </ul>
2005	<p>SILVER MEDAL, Homi Bhabha Young Scientist Competition</p> <ul style="list-style-type: none"> <li>• 3 stages: theoretical, practical &amp; personal interview; 50 students in state were awarded silver</li> </ul>
2005	<p>BEST SCOUT, BEST PATROL (<i>Patrol Leader</i>, leading an 11 member patrol), BHARAT SCOUTS</p>

## SKILLS

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Programming Languages	Experienced in C++, VBA; Possess working knowledge of HTML, PHP
Financial Tools	Experienced in Bloomberg
Applications	Proficient in MS Office (Word, PowerPoint & Excel); Experience with Adobe Photoshop, InDesign

## INTERESTS

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summer 2009	<p>BASIC MOUNTAINEERING COURSE</p> <ul style="list-style-type: none"> <li>• Attended a 20 day basic mountaineering course in the lower – middle Himalayas at the DIRECTORATE OF MOUNTAINEERING AND ALLIED SPORTS (DMAS) Institute, Manali</li> <li>• Scaled a height of 14,000 feet</li> </ul> <p>KARATE Green Belt</p> <ul style="list-style-type: none"> <li>• Trained in the Shotokan style; AWARDS: Gold Medal (<i>Kata</i>), Silver Medal (<i>Sparring/Kumite</i>)</li> </ul> <p>READING (Genres: Finance, Econ.) Liar’s Poker, The Black Swan, Reminiscences of a Stock Operator</p>
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**Electrical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Microelectronics**

**Dual Degree (B.Tech+M.Tech.)**  
**Male**  
**DOB: 07/03/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.45

- Top 1% in country, Indian National Physics Olympiad 2007-08
- Received certificate of distinction at National Level in All India Talent Search Exam 2003-04

## Leadership and Initiatives

- Overall Head, The 2<sup>nd</sup> IITB Debate Oct '10**
- Set up a **3 tier team** of 50 people to handle marketing, logistics and accommodation
  - Raised sponsorship worth 3.5 lakh; **doubled participation** to 200 people
  - Initiated **international participation** – establishing it as the 2<sup>nd</sup> largest tournament in India

- Institute Debating Secretary April '10–March '11**
- Led a team of 20 hostel secretaries and conveners across English and Hindi speaking clubs, conducted 15 workshops and events, and 7 General Championships, catering to 600+ students
  - Reached out to KV school students on campus and uninitiated IITians through targeted amateur workshops for **greater inclusivity**
  - Increased freshmen participation 3-fold through professional workshops, debate games, dedicated judge slots at IITB Debate – has led to the **tripling of breaks** at national tournaments

## Industry Exposure

- Nomura Securities, Mumbai Equity Research June-July '12**
- Made detailed **projections for power capacity** in India for next 5 years by analysing company reports, government data, news media - for a key client report on outlook of power sector
  - Updated **financial models** to revise valuation and create future earnings outlook as of the latest quarter

- Tensilica, Pune DSP Firmware May-July '11**
- Investigated the architecture of HiFi2 audio processor – industry leading DSP core
  - **Redesigned** existing audio algorithms for upcoming architectures using Cintrinsic
  - **Improved execution speed** by over 50% for selected modules – will lead to reduced power consumption and **superior sound quality** across mobile and entertainment applications

## Master's Thesis – Industry Project

- Calibrating Sentaurus Feb '12 – present**
- Collaborating with automation major, Synopsys, to **develop their simulation software**
  - Investigated models that simulate quantization in Silicon, optimized them for Germanium
  - Will enable the designing of **next generation transistors** with Silicon-Germanium, in order to considerably improve computation times

## International Exposure

- Exchange Program National University of Singapore Autumn '11**
- Experienced a culturally diverse milieu of over 600 exchange students from over the globe; built **lasting networks** with many across travels, projects and interest pursuits
  - Actively pursued debating; **represented NUS** at several tournaments, including Asian's BP
  - Explored **martial arts** – beginners Wushu course; learnt **scuba diving** – Open Water Course, Malaysia; travelled to 3 new countries, engaged in surfing, rafting, kayaking

## Extra Curricular Activities

- Debate**
- Knockout Round Judge, top 20 out of 100 at ABP, Dhaka '11 – **Asia's largest** British Parliamentary Debate; **represented NUS**
  - Knockout Round Judge, NLS Bangalore, **South Asia's largest** Debate
  - **Finalist** Speaker, Malhar, '09; **Semi-finalist** Judge, IIT Delhi, '12
  - **Quarter-finalist** Speaker, NALSAR, Hyderabad '12

- Sports**
- Successfully completed **endurance test** at Swimmathon' 09, swimming 8.9 km in 6 hrs
  - Finished 2nd in **Water Polo** General Sports Championship

- Others**
- Assistant Contingent Leader, led 250+ participants to win an overall 3<sup>rd</sup> at Malhar
  - Acted in winning entry for Mood Indigo **short film** competition '08
  - **Compered** at flagship events in Techfest '09 and '10, with audiences more than 2000



## Objective

To exercise innovatively my intellectual ability supported by my strengths of rationality and integrity to achieve quality output as an analyst and develop continually as a professional and a person

## Education

Year	Degree/ Certificate	Institute	CGPA/%	Rank
2003-present	B.Tech., Mechanical Engg.	Indian Institute of Technology, Delhi	8.7/10	5 / 68
2003	AISSE	GHPS, New Delhi	87 %	3 / 100
2001	AISSE	GHPS, New Delhi	84 %	6 / 230

## Scholastic Achievements

- Received an Institute Merit Award in IIT in 2005-2006
- Selected for Indian National Mathematics Olympiad & scored 95% in Delhi Mathematics Olympiad

## Summer Internship

Organization- **Hindustan Lever Ltd. (HLL)**

Place- Personal Products Factory, Silvassa

Period- May-July 2006

Project 1 – *Giveaway reduction in Talcum powder packaging*

- ❑ Identified key causes of weight variation, conducted trials with modified auger, servo drive
- Reduced giveaway to less than 1% for all brands, from previous average of 4%

Project 2 – *Reduction of Manpower requirement in Talcum powder packaging line*

- ❑ Identified key areas for automation and optimized the manning structure
- Laid the plan to achieve reduction in manpower required from 9 to 5 employees per line

➤ **Received Pre Placement Offer from HLL**

## Academic Projects

1. *Developing a model to identify and quantify risk in Supply Chain (in progress)*
  - ❑ Shall provide a framework for analyzing supply chain from risk perspective, allowing beforehand evaluation of risks thereby assisting in decision making
  - First of its kind work undertaken in IITD regarding quantification of risk
2. *Established noise signatures of surface defects in gears for condition monitoring*
  - Awarded 9/10 in appraisal, appreciated for quality of work
3. *Conceptualized, designed and manufactured a dust-free automatic wall sander*
  - Selected for display in I<sup>2</sup>Tech exhibition, praised for the novel idea

## Acquaintance Beyond Core

• Operations research • Micro and Macroeconomics • Probability and stochastic • Quality Management

## Extra Curricular

- Led a team of 10, representing IITD, to semifinals of 'Robocon-India 2006', national robotics contest
- An NCC 'A' certificate holder with over 100 hrs of practice in IITD
- Managed jointly the event 'Diathlon' in 'Tryst 2006', annual tech fest in IITD
- Represented school in athletics, 99-00



Civil Engineering  
Indian Institute of Technology, Bombay

B.Tech.  
Male  
DOB: 27/07/1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	9.20

### SCHOLASTIC ACHIEVEMENTS

- Department **rank 5** (out of 102 students); pursuing a minor degree in **Management** ['12]
- Received the **Institute Academic Excellence Award** for 2<sup>nd</sup> highest annual CPI in the department ['11]
- Amongst the top 1% (out of 40000 students) in the Indian National Chemistry Olympiad ['09]
- Awarded the **Mahindra Talent Scholarship** for academic and extracurricular excellence ['06]

### LEADERSHIP AND ENTREPRENEURIAL ROLES

**CORE GROUP MEMBER, INFORMALS, MOOD INDIGO 2011 (MI)** [Apr'11 - Apr'12]

*India's largest college cultural festival with over 80,000 visitors from 700 colleges and a total budget of ` 1.8 crore*

- Led a **2-tier team** of 175 students to organize 60 events; effected **100% growth** (y-o-y) in participation
- Pioneered the **first ever** International Electronic Dance Music concert at a college festival in India with a performance by **Akcent**; negotiated with the sponsor to garner **100% event sponsorship**
- Conceptualized **36 new events**, introduced queue entertainment, unconventional sports and experience events
- Introduced UV Paintball for the **first time in India**; the customized arena attracted a participation of over 2000
- Generated additional ` **15 lakh** for department budget (**500% increase**) by creative event integrations for sponsors

**CAMPUS AMBASSADOR, TEACH FOR INDIA (TFI)**

[May'12 - Present]

*Amongst 3 students selected from IIT Bombay to spearhead the awareness campaign for TFI*

- Founded** the TFI-IITB volunteer team; recruited a core team of 15 members
- Executing an institute wide **book donation drive** thereby integrating publicity with tangible outcome

**Co-FOUNDER, YFORCE**

[Jul '12 - Present]

*A city wide initiative with an objective of Talent Promotion and Youth Awareness*

- Executing a series of **pan-Mumbai competitions**; winners get a chance to work on **live projects** with professionals
- Established a team of 20 to manage events, publicity and backend operations

### PROFESSIONAL EXPERIENCE AND PROJECTS

**STANDARD CHARTERED BANK, CORPORATE ADVISORY DIVISION, MUMBAI**

[May'12 - Jul'12]

- Assessed the suitability of FDI into India by analyzing **macroeconomic** and **demographic** factors
- Identified key **growth drivers** in consumer driven sectors like Pharmaceuticals, FMCG, Retail, F&B and Apparels
- Recommended **32 acquisition targets** to enable **market entry** of a foreign client after performing preliminary diligence of 550 Indian pharmaceutical companies; additional short listing criteria suggested were accepted
- Contributed to **business development** by profiling 12 major logistics players as part of a pitch to PE clients
- Awarded an overall **rating of 4/5** by the Director, special mention for "ability to learn quickly"

**CHANNEL [V], INDIAFEST**

[Dec'10 - Feb'11]

- Indiafest is a 2 day youth festival in Goa with a budget exceeding ` **7 crore** which attracted **6500 attendees**
- Led a team of 20 to conceptualize, publicize and execute 5 events with 750 participants from 100 colleges
- Improvised event structure** to accommodate unforeseen logistics constraints of an unfamiliar venue

**MARKETING & PRODUCT DEVELOPMENT OF TATA DOCOMO | Management Project**

[Jan'12 - Apr'12]

- Analyzed the marketing strategy and **segmented consumers** to identify high-growth target segment
- Developed a **new pricing strategy** based on STP analysis, Promotion and Distribution strategy

### EXTRACURRICULAR ACTIVITIES

<b>Community Service</b>	<ul style="list-style-type: none"> <li><b>Spearheaded</b> the planning &amp; execution of social initiative '<b>Sparsh</b>' by Make a Difference ['11] <ul style="list-style-type: none"> <li>Introduced Big Brother program where college students <b>mentored</b> 60 underprivileged children</li> <li>Organized career counseling sessions &amp; slum awareness drive for <b>1100 underprivileged</b> children</li> <li>Received <b>6000 signatures</b> for a signature campaign on RTE in collaboration with Teach for India</li> </ul> </li> <li>Conducted sessions on Importance of Education for 50 orphaned children for PUKAR ['11]</li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li><b>1<sup>st</sup> position</b> in E-Cell's <b>Virtual stock market</b>, a 3 day event with 2000 participants ['10]</li> <li><b>Editor</b>, Mirage, Mood Indigo's newsletter with 30,000 copies sent to 150 colleges ['11]</li> <li>Performed the play 'Lawaaris' at the <b>Prithvi theatre</b> in front of 150 strong audience ['03]</li> </ul>
<b>Karate</b>	<ul style="list-style-type: none"> <li>Awarded <b>Black Belt</b> at the age of 12 after training for 6 years ['02]</li> </ul>



**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Ceramics & Composites**

**Dual Degree (B.Tech+M.Tech.)**  
**Female**  
**DOB: 26/09/1988**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.92
Intermediate/+2	Maharashtra State Board	Fergusson College, Pune	2006	89.67
Matriculation	Maharashtra State Board	Bal Shikshan Mandir, Pune	2004	91.60

#### ACADEMIC ACHIEVEMENTS

- Currently ranked **2nd** in the Department, in the dual degree batch of 38 students
- Received Institute **Academic Excellence Award** for outstanding academic performance [2008-09, 2009-10]
- Achieved a perfect Semester Performance Index of **10.0** in Autumn '08
- Awarded **Minor** in Computer Science and Engineering after the successful completion of 5 courses
- Recipient of the **National Talent Search Scholarship** [2004]
- **Gold medal** in the Ganit Pradnya (Mathex) examination [2002]

#### POSITIONS OF RESPONSIBILITY

##### **Cabinet Member, Student Mentorship Program (SMP)** [2011-present]

- Part of the 7-member cabinet team that provides support and guidance to the SMP coordinators
- Ensuring smooth functioning of the *Department Academic Mentorship Program (D-AMP)* for the **Aerospace** and **Metallurgical** Engineering Departments
- Conceptualized and drafted, for the **first** time, the **D-AMP charter**, a formal document that defines the structure of the Department Academic Mentorship Program
- Advising a team of **14** mentors in the department working towards providing guidance and **counseling** to **academically weak** students, to cope with academic, extra-academic and other problems
- Proposed and implemented effective teaching and **evaluation methods** and initiated **curriculum review**, in collaboration with the Academic Council and the faculty members, to promote academic vigor

##### **Chief Editor, Dhatuki** [2009-10]

*Official magazine of the Department of Metallurgical Engineering and Materials Science*

- Led an **execution panel** of **20** members towards the successful release of **2 editions** of the magazine
- Interviewed faculty members to portray the ongoing cutting edge research activities in the department
- Conceptualized and successfully implemented the inclusion of an exclusive section for **Hindi** articles
- Designed and published a *Department Placement Newsletter*, for the **first** time ever in the department

##### **Music Incharge, Performing Arts Festival** [Mar 2011]

- Led the Music team comprised of **16** members to win the **Best Music Trophy** in PAF 2011
- Composed the main background score and 4 **original** music tracks
- Coordinated the synchronization of **entirely live music** belonging to 4 entirely different genres **without** the use of any recorded track
- Specially appreciated as the lead vocalist by the judges

##### **Institute Student Mentor & Department Academic Mentor** [2010-11]

- Guided freshmen to strike a **balance** between academics and other activities and to cope with academic, extra academic and personal problems
- Counseled **5 academically weak**, second and third year students on a one-on-one basis, helping **all** of them successfully clear their **backlogs**
- Designed online **feedback forum** to gather student feedback regarding the performance of mentors

## INTERNSHIPS & KEY PROJECTS

University of New Brunswick, Canada

[May-Jul 2010]

*Nanocomposite Multifunctional Fibers*

- One of the 75 students selected from all over India, under **MITACS** Globalink Program 2010, to pursue research and attend conferences and project management workshops in Canada
- Received **2 awards- 'Best Non-Technical Article'** on advanced materials all over **Canada**, and '**Best Non Technical Article**' in The University of New Brunswick for a non technical article based on the research
- Manufactured and carried out systematic analysis of Spandex-Carbon Nanotube composite fibers to exploit their high thermal conductivity, for applications in **sportswear** fabric

National Chemical Laboratory, Pune

[May-Jul 2009]

*Co-crystal Formation and Analysis*

- Synthesized Co-crystals of water insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drug in water; analyzed various pairs of organic compounds for their solubilities
- Experimentally determined ratio of the 2 compounds to be co-crystallized for **maximum solubility**

Dual Degree Dissertation, IITB

[Jul 2011-present]

*Cantilever MEMS Biosensors*

- Currently analyzing various developments in the field of piezoresistive **cantilever MEMS devices**
- Working on the fabrication of a cantilever based Microelectromechanical System device that can be used as a **bio-sensor**, by detecting changes in the **resonant frequency** of the cantilever beam
- Plan to apply the same in the detection of **excess glucose** and cancerous tissues in the human body

Junior Thesis, IITB

[Jan-Apr 2010]

*Size and Shape controlled Nanoceramics*

- Conducted an extensive literature survey to analyze various techniques of **size and shape** controlled synthesis of various metal oxide nanoparticles
- Studied the applications of nanoceramics in day-to-day life and delivered a talk on the same

Behavioral Finance (Term Paper, Managerial Finance)

[Jan-Apr 2011]

- Studied and delivered a talk on influence of **psychology** of financial practitioners and its effect on **markets**
- Systematically analyzed various behavioral problems among investors; suggested **preventive** measures

## EXTRA CURRICULAR ACTIVITIES

### Awards

- Hostel **Cultural Colour** ('09) Award for representing the hostel in inter-hostel cultural competitions
- Hostel **Technical Special Mention** ('09) for active participation in technical competitions and **mentoring** hostel freshmen in technical events
- Award for **exceptional performance** as the Music Incharge, for exemplary coordination of the music team and conceptualization of an **on-stage** live band for the **first time** in PAF ('10), declared as '**Gem of the PAF**'

### Music

- Completed **4 years** of formal training in Indian **Classical Vocal Music**, with distinction at the renowned Gandharva Mahavidyalaya
- Was the Lead Vocalist in:
  - **Institute Cultural Night** ('09), opening for performances by **Bhupinder Singh** and **Mohit Chauhan**, an event witnessed by an audience of 5000
  - **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB
  - PAF ('09, '10 & '11), inter-hostel General Championships and Western Music Concerts in the institute

### Others

- Professionally trained in **Bharatnatyam** for **10 years** having completed the basic course with **distinction**
- Completed Basic French Communication Course Module 1, by **Alliance Française**
- Won **1<sup>st</sup> Prize** in Materials Quiz at Padarth ('10), technical festival of the Metallurgical Engg. Department
- Qualified (placed amongst the **top 5**) for the final round of the Classical Dance Competition at Malhar '09

## Summer Internship

**Organization:** Bell Labs Research India, Bangalore (May, 2006 to July, 2006).

- Worked on scheduling algorithms for Ad-hoc wireless networks. I devised efficient algorithms for finding suitable schedules for these networks. A paper based on these results has been submitted for publishing by the company in ICDCS, 2007.

## Projects Done As Part Of Course-Work

- **Face Recognition using Eigen Values using Principal Component Analysis:** Two methods tested, matching query image with each image in database and, secondly matching query image with an image per individual (one face class per individual).
- **Video on-demand on ARM boards:** Seamlessly accessing and displaying video data via LAN from a central server on a low memory device such as the ARM board.
- **Engineering Drawing Software:** Software was made which given two projections of an object could generate the 3-D model and all other isometric projection.

## Relevant Courses Taken

- Computer Science: Theory of Computation, Algorithm Design and Analysis, Computer Networks, Digital Image processing, Data Structures, Computer Architecture, Operating Systems, Discrete Mathematics.
- Economics: Macroeconomics, Microeconomics, Globalization and Work Culture.
- Mathematics: Algebraic Geometry, Vector Spaces and Differential Equations, Linear Algebra, Probability and Stochastics.

## Positions of responsibility

Position, Organisation	Period	Key achievements
School Prefect, Modern School	2002-2003	Organised the school Founder's Day function. Also helped organize school plays and dramas.
System Administrator, IITD	2004-2006	Worked on upgrade and maintenance of the Department computing facilities.

## Extra-curricular activities and interests:

- An active member of National Social Service Scheme. Participated in paper recycling drives and helped organize Youth Awareness Lectures (2003-2005).
- Took part in the orchestra at the School's Founder's Day functions.
- Took part in School House Functions in 1996, 1998 & 2000.
- Actively interested in sports such as cricket and badminton. Played for the schools cricket team as the wicket keeper (1996-2001).
- Was Member of Interact Club and Spic Macay from 1996-2003.

## Computer Skills

- **Advanced Programming Experience:** C/C++, JAVA, MIPS 32 and x86 ASSEMBLY, Visual Basic, SML, VHDL, HTML, PHP.
- **Platforms:** Red Hat Linux 7.0/8.0/9.0, Fedora, Windows XP/2k/NT/98/95/3.1, Unix, Solaris.
- **Packages:** IFS kit, P-Spice, MATLAB, LEDA, LaTeX.



**Metallurgical Engineering and Materials Science**  
**Indian Institute of Technology, Bombay**  
**Specialization: Ceramics & Composites**

**Dual Degree (B.Tech+M.Tech.)**  
**Female**  
**DOB: 26/09/1988**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.92
Intermediate/+2	Maharashtra State Board	Fergusson College, Pune	2006	89.67
Matriculation	Maharashtra State Board	Bal Shikshan Mandir, Pune	2004	91.60

#### ACADEMIC ACHIEVEMENTS

- Currently ranked **2nd** in the Department, in the dual degree batch of 38 students
- Received Institute **Academic Excellence Award** for outstanding academic performance [2008-09, 2009-10]
- Achieved a perfect Semester Performance Index of **10.0** in Autumn '08
- Awarded **Minor** in Computer Science and Engineering after the successful completion of 5 courses
- Recipient of the **National Talent Search Scholarship** [2004]
- **Gold medal** in the Ganit Pradnya (Mathex) examination [2002]

#### POSITIONS OF RESPONSIBILITY

##### **Cabinet Member, Student Mentorship Program (SMP)** [2011-present]

- Part of the 7-member cabinet team that provides support and guidance to the SMP coordinators
- Ensuring smooth functioning of the *Department Academic Mentorship Program (D-AMP)* for the **Aerospace** and **Metallurgical** Engineering Departments
- Conceptualized and drafted, for the **first** time, the **D-AMP charter**, a formal document that defines the structure of the Department Academic Mentorship Program
- Advising a team of **14** mentors in the department working towards providing guidance and **counseling** to **academically weak** students, to cope with academic, extra-academic and other problems
- Proposed and implemented effective teaching and **evaluation methods** and initiated **curriculum review**, in collaboration with the Academic Council and the faculty members, to promote academic vigor

##### **Chief Editor, Dhatuki** [2009-10]

*Official magazine of the Department of Metallurgical Engineering and Materials Science*

- Led an **execution panel** of **20** members towards the successful release of **2 editions** of the magazine
- Interviewed faculty members to portray the ongoing cutting edge research activities in the department
- Conceptualized and successfully implemented the inclusion of an exclusive section for **Hindi** articles
- Designed and published a *Department Placement Newsletter*, for the **first** time ever in the department

##### **Music Incharge, Performing Arts Festival** [Mar 2011]

- Led the Music team comprised of **16** members to win the **Best Music Trophy** in PAF 2011
- Composed the main background score and 4 **original** music tracks
- Coordinated the synchronization of **entirely live music** belonging to 4 entirely different genres **without** the use of any recorded track
- Specially appreciated as the lead vocalist by the judges

##### **Institute Student Mentor & Department Academic Mentor** [2010-11]

- Guided freshmen to strike a **balance** between academics and other activities and to cope with academic, extra academic and personal problems
- Counseled **5 academically weak**, second and third year students on a one-on-one basis, helping **all** of them successfully clear their **backlogs**
- Designed online **feedback forum** to gather student feedback regarding the performance of mentors

## INTERNSHIPS & KEY PROJECTS

University of New Brunswick, Canada

[May-Jul 2010]

*Nanocomposite Multifunctional Fibers*

- One of the 75 students selected from all over India, under **MITACS** Globalink Program 2010, to pursue research and attend conferences and project management workshops in Canada
- Received **2 awards- 'Best Non-Technical Article'** on advanced materials all over **Canada**, and '**Best Non Technical Article**' in The University of New Brunswick for a non technical article based on the research
- Manufactured and carried out systematic analysis of Spandex-Carbon Nanotube composite fibers to exploit their high thermal conductivity, for applications in **sportswear** fabric

National Chemical Laboratory, Pune

[May-Jul 2009]

*Co-crystal Formation and Analysis*

- Synthesized Co-crystals of water insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drug in water; analyzed various pairs of organic compounds for their solubilities
- Experimentally determined ratio of the 2 compounds to be co-crystallized for **maximum solubility**

Dual Degree Dissertation, IITB

[Jul 2011-present]

*Cantilever MEMS Biosensors*

- Currently analyzing various developments in the field of piezoresistive **cantilever MEMS devices**
- Working on the fabrication of a cantilever based Microelectromechanical System device that can be used as a **bio-sensor**, by detecting changes in the **resonant frequency** of the cantilever beam
- Plan to apply the same in the detection of **excess glucose** and cancerous tissues in the human body

Junior Thesis, IITB

[Jan-Apr 2010]

*Size and Shape controlled Nanoceramics*

- Conducted an extensive literature survey to analyze various techniques of **size and shape** controlled synthesis of various metal oxide nanoparticles
- Studied the applications of nanoceramics in day-to-day life and delivered a talk on the same

Behavioral Finance (Term Paper, Managerial Finance)

[Jan-Apr 2011]

- Studied and delivered a talk on influence of **psychology** of financial practitioners and its effect on **markets**
- Systematically analyzed various behavioral problems among investors; suggested **preventive** measures

## EXTRA CURRICULAR ACTIVITIES

### Awards

- Hostel **Cultural Colour** ('09) Award for representing the hostel in inter-hostel cultural competitions
- Hostel **Technical Special Mention** ('09) for active participation in technical competitions and **mentoring** hostel freshmen in technical events
- Award for **exceptional performance** as the Music Incharge, for exemplary coordination of the music team and conceptualization of an **on-stage** live band for the **first time** in PAF ('10), declared as '**Gem of the PAF**'

### Music

- Completed **4 years** of formal training in Indian **Classical Vocal Music**, with distinction at the renowned Gandharva Mahavidyalaya
- Was the Lead Vocalist in:
  - **Institute Cultural Night** ('09), opening for performances by **Bhupinder Singh** and **Mohit Chauhan**, an event witnessed by an audience of 5000
  - **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB
  - PAF ('09, '10 & '11), inter-hostel General Championships and Western Music Concerts in the institute

### Others

- Professionally trained in **Bharatnatyam** for **10 years** having completed the basic course with **distinction**
- Completed Basic French Communication Course Module 1, by **Alliance Française**
- Won **1<sup>st</sup> Prize** in Materials Quiz at Padarth ('10), technical festival of the Metallurgical Engg. Department
- Qualified (placed amongst the **top 5**) for the final round of the Classical Dance Competition at Malhar '09