	Shreyas Chavan	100100007
	Mechanical Engineering	**UG Third Year (B.Tech.)**
	Indian Institute of Technology, Bombay	**Male**
	Specialization: None	**DOB: 30 July 1993**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.07
Intermediate/+2	Maharashtra Board	Arts, Science and Commerce College, Naldurg	2010	82.33
Matriculation	Maharashtra Board	S.R.Chandak English High School, Solapur	2008	87.84

KEY PROJECTS

HEAT PUMP LABORATORY, IIT BOMBAY   **(May 2011-present)**
Guide: **Prof. Milind V. Rane**
- Working on development of **hybrid Air Conditioners** with waste heat recovery and **maximum efficiency**
- **Invented** a design of a **heat and mass exchanger** with an **enhanced heat and mass transfer coefficient by a factor greater than 2.5** as compared to present designs and has reduced weight with simple structure and manufacturing
- The process of **filing a Patent** on the design is in progress
- This heat and mass exchanger can be used in **Air Conditioners**, Telecom Shelters, Driers, **Indirect Evaporative Cooling**, **Per-vaporation**, **Liquid Desiccant Regeneration**, **Desalination**, **Dehumidification** and many other areas where heat and mass is to be exchanged between multiple fluids
- Simulated the whole design to validate heat transfer coefficient and proved that the **design is better than existing ones in every aspect**
- Did **background research** and **Prior Art** to obtain the information on existing public knowledge in the concerned field in literature, journals and other publications and relevant patent databases
- Worked on **desalination of sea water** using the waste heat generated in Air Conditioners and development of **Solar Heat Exchangers**

MEMBER OF THE RACING TEAM OF IIT BOMBAY   **(July 2011-present)**
IIT Bombay Racing Team designs and manufactures a Formula Race Car for the Formula Student, UK competition which involves designing, engineering, planning, manufacturing, marketing and racing a Formula Car
- Participated in making **India's first Electric Race Car EVo 1**, for Formula Student, UK'12
  - Carried out an extensive **analysis** of the **forces experienced** by the members of Drivetrain like Sprockets, Motor mounts, Tripod Joints, Axles and accordingly performed **Finite Element Analysis** of them for **optimum shape and weight**
  - **Optimized the performance** of the Car by a research on various types of mechanical **differential** and implementing the most suitable for the Car
  - Designed the **geometry of inner surface** of Tripod Joints for the Car
- Currently working on **EVo2**, the next electric vehicle of the series as a **Design engineer, Drivetrain and Electronic Differential**
  - Designing, Modeling and simulating the Gearbox of the Car with **Maximum Power to weight ratio**
  - Making a **multi body dynamics (MBD)** model of the whole car to **validate the algorithm** of Electronic Differential and **optimizing the constants** of PID controller
  - **Modeling the race track** at Silverstone to perform a **motion study simulation** on MBD model to **optimize the parameters** of the cars such as final reduction ratio, number of battery cells, etc.
  - Designing and developing the **slip control algorithm** for Electronic Differential which includes **controlling the rpm of motors** connected independently to the rear wheels according to the steering inputs and dynamic variables of the vehicle
- Participated in building an All Terrain Vehicle , Prithvi 3.0 for BAJA SAE India '12 that:
  - Was adjudged as the best vehicle showcased at the event
  - Was lightest sustainable vehicle and Secured ANSYS CAE award

SOFTWARE SKILLS

- **Programming Languages:** C/C++
- **Tool:** MATLAB
- **Packages:** Solid Works, Pro-Engineer, Auto Cad
- **Simulation Tools:** ANSYS, Simulink, Adams, Hyperworks

INTERNSHIPS

SKODA AUTO INDIA PRIVATE LIMITED   (June - July 2012)

I designed and implemented "Pick to Light" and "Pick in Sequence" concept to decrease the assembly time and increase the accuracy and thus quality of the car.

Pick to Light:
- When a Car arrives at tact, and it is scanned for type of model, LEDs are glowed at the respective places where the components of the model are kept on the Rack.
- When a component is taken from the bin, then the LED corresponding to it turns OFF due to motion sensor.
- So, there is a confirmation of which components are assembled and which are remaining.

Pick in Sequence:
- When a Car arrives at tact, and it is scanned for type of model, LED is glowed at the place from where the first component to be assembled is kept on the Rack.
- When a component is taken from the bin, then the LED corresponding to it turns OFF due to motion sensor and LED corresponding to second component to be assembled is glowed and so on.

VIDEOCON INDUSTRIES LIMITED   (June-July 2011)

- Learnt a designing software known as Pro Engineer and modified the designs of LCD TV.
- Analyzed the quality control process of Incoming Products from the Vendors, On Line Products & Outgoing Product.
- Analyzed the process of reduction of Field Call Rates (FCR).
- Analyzed the Making and Functioning of molds of front covers and back covers of CTVs and LCDs.

COURSES

Department:

Engineering Mechanics	Thermodynamics	Solid Mechanics
Engineering Drawing	Strength of Materials	Fluid Mechanics and Lab
Manufacturing Processes I & II	Manufacturing Practice Lab	Heat Transfer
Industrial Engineering and Operational Research		

Non-department:

Electronics and Electrical Circuits	Engineering Metallurgy	Power Electronics
Data Analysis and Interpretation	Signals and Systems	Psychology
Computer Programming and Utilization	Economics	Digital Electronics

Sciences:

Calculus	Linear Algebra	Differential Equations
Introduction to Numerical Analysis	Chemistry	Modern Physics

EXTRA CURRICULAR ACTIVITIES

- Made a Line follower (an auto robot) for Intra IIT Competition.
- Did a Workshop in which an Auto Robot works on Sensors Sensing Light and Sound.
- Made a Remote Controlled Car for an Intra IIT competition called Track Mania.
- Played Inter School Cricket tournaments.
- Part of National Sports Organization (NSO) 2010-11, in the Guitar Team.