

**Name:** Aniket Diliprao Modi  
**Date of Birth:** 4<sup>th</sup> Jan 1991  
**Department:** Mechanical Engineering, IIT Bombay  
**Email:** [aniketmodi91@gmail.com](mailto:aniketmodi91@gmail.com) , [aniketmodi@iitb.ac.in](mailto:aniketmodi@iitb.ac.in)

**Gender:** Male  
**Age:** 20  
**Program:** B. Tech.  
**Phone:** 91 9757417584

#### ACADEMIC DETAILS

Examination	University	(CPI)/Percentage	Year
Graduation(After 6 <sup>th</sup> sem)	IIT Bombay	8.65	2011
Intermediate/+2	Maharashtra State Board	84.67%	2008
Matriculation	Maharashtra State Board	93.2%	2006

- Pursuing an **Honor degree** under the inter-disciplinary department **IEOR** (Industrial Engineering and Operations Research)
- Pursuing **Minor degree** in **Computer science**; Include Machine learning and Introduction to **Data mining**

#### SCHOLASTIC ACHIEVEMENTS

- Secured All India Rank of **209** (top 1%) in both IIT-JEE and AIEEE [2008]
- Awarded scholarship by **National Board of Higher Mathematics** for excellence in mathematics [2008]
- Among the **top 30** in Indian National Mathematics Olympiad for **2 consecutive years** [2007 & 2008]
- Among **top 1%** (among 35000) in Indian **National Physics Olympiad** [2008]
- Among **top 1%** (among 35000) in Indian **National Astronomy Olympiad** [2008]
- Recipient of **National Talent Search Examination** Scholarship [2006]
- Secured **16<sup>th</sup>** rank in merit list in **Matriculation** [2006]

#### KEY PROJECTS UNDERTAKEN

##### **TRAIN SCHEDULING SIMULATION PROJECT, Summer Project** [May 2011- Jun' 2011]

It's an ongoing project called 'Train Scheduling Software Development' of **IITB** in collaboration with **BITES**

- Understood the algorithm of Existing Train Scheduling **JAVA Software**, with the help of test cases
- Modified test cases and Suggested modifications which will **improve** its use as **3 Line Train Scheduler**
- **Modeled** 3 line train scheduling problem as an **Optimization problem** with Indian Rail System as basis
- **Modified** formulations available from literature to apply them on **Indian Train Scheduling**

##### **RESERVATION OF 3<sup>rd</sup> LINE IN 3 LINE RAILWAY SYSTEMS, B. Tech. Thesis** [Jul' 2011-Present]

As an extension of Train Scheduling Simulation Project,

- Modeled the similar optimization problem **One-Way line as bottleneck with Two-Way traffic**, which can be extended to tackle main problem
- Currently analyzing effect of parameters on the optimum value with the help of **C++ and mathematica**

##### **IIT BOMBAY RACING TEAM, Co-curricular Project**

IITB Racing is an all student team which compete at **national and international** inter-collegiate **automotive** competitions. It involves designing, fabrication and racing of a car

##### **BAJA SAE India, Indore**

[May 2010-Jan' 2011]

Core Team Member, **Chassis Subsystem Head**

- Conceptualized, designed the chassis considering **driver's safety, load paths and ergonomics**
- Analyzed the chassis for its **Torsional Rigidity and Impact Tests** using Finite Element Analysis(FEA) in ANSYS to optimize weight and strength
- Achieved **reduction of 20% in weight** with increase in Safety factor from earlier car
- Team was awarded by '**Raftar Award**' of INR **1 Lac** for **lightest and fastest** car

##### **Formula SAE Electric, UK**

[May 2011-Present]

**Team Leader-** Chassis Design

- Currently in the designing stage
- Aiming mainly at better **comfort and ergonomics of driver** in addition to basis considerations, also **Compact packaging** for better maneuverability as we will be using electric motor and power-train

## **PORTABLE END MILLING CNC MACHINE, Academic Project**

[Sept' 2010- Nov' 2010]

- Decided the **driving screw and guide rails** dimensions by estimating **bending and shear stresses**
- Designed the structure in SolidWorks considering **portability, minimum overhang and vibrations**
- **Optimized** the structure to minimize the **weight** and deflections using static FEA in SolidWorks

## **MODELING OF MECHANICAL CALCULATOR, Personal Project**

[Jan' 2010]

- Designed a **completely mechanical** calculator which can add-subtract 2 digit numbers based **gear concept**
- Major focus of design was **compactness, user friendliness and portability**
- Modeled design in Solidworks and optimized for gear ratios, gear dimensions and shaft lengths

## **TECHNICAL SKILLS**

- Modeling and Analysis: SolidWorks, ANSYS (classic and workbench), Simulink
- Languages: C/C++, java
- Operating Systems: Windows, Linux

## **POSITION OF RESPONSIBILITY**

### **IITB Racing Team- Chassis Subsystem**

#### **Formula SAE, UK: Team Leader- Chassis Design**

[Jul' 2011-Present]

- Currently heading a team of **5** students to design and manufacture **Formula SAE chassis**
- Planned the allocation and made **time-lines** for the chassis which involved designing, testing simulations, packaging, material selection, procurement and jigging
- **Initiated** projects like **CFRP, Transient Analysis in ANSYS**

#### **BAJA SAE- Chassis Subsystem**

[May' 2010- Jan' 2011]

- Headed a team of **4** students to design and manufacture **All- Terrain Vehicle Chassis**
- Planned the allocation of work and the time-lines for the chassis and vehicle dynamics subsystem which involved designing, testing simulations, packaging, material selection, procurement and jigging

#### **Mentor, Carbon Fibre Reinforced Plastic**

[Jun' 2011-Jul' 2011]

- Mentored **4 Sophomores** on the CFRP which will be implemented as monocoque
- **ANSYS tutoring** was done for modeling of CFRP in ANSYS

#### **Computer Science Junior Teaching Assistant**

[Aug' 2011-Present]

- Selected as Teaching Assistant for **first year C++ course**, for excellence in C++ and minor in CS
- Among the **4 junior TAs** selected for preparing assignments
- Formulate practice problems and **lab assignment** every week to check understanding of crucial parts and improve student's C++ skills

## **EXTRA-CURRICULAR AWARDS AND RECOGNITION**

### **General Quizzes**

- Secured **1<sup>st</sup>** rank in **State Level Quiz Competition** held by Vivek Vyaspith, Mumbai [2000]
- Awarded **1<sup>st</sup>** prize in **Inter-College Quiz Competition** held by Indian Association Physics Teachers [2007]
- Awarded **1<sup>st</sup>** prize for **2** consecutive years in District Level G.K. Quiz Competition [2000-01, 2001-02]

### **Chess**

- District rank **3<sup>rd</sup>** and **4<sup>th</sup>** in **Interschool Chess Competition** for **2** consecutive years [2003 & 2004]
- District rank **3<sup>rd</sup>** in **Division** (containing 8 districts) **Chess Selection Competition** [2004]

### **Other**

- Ranked in **top 15 teams** among 300, in **Junk-Yard Wars** at Tech-Fest, IIT Bombay [2010]
- Successfully completed nurture camp in higher mathematics under **Indian Statistical Institute (ISI)** [2009]
- Successfully completed **Elementary and Intermediate Drawing** Exams [2002 & 2004]
- Successfully completed a course in **Rappelling and Parasailing** as a part of NCC [2003]