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| **Ketan Baban Katkar** | | | **12D110012** | |
| **Metallurgical Engineering & Material Science** | | | **UG Second Year** | |
| **Indian Institute of Technology Bombay** | | | **Male** | |
| **Specialization: Ceramics & Composites** | | | **DOB: 05/05/1994** | |

| Examination | University | Institute | Year | CPI / % |
|---|---|---|---|---|
| Graduation | IIT Bombay | IIT Bombay | 2014 | 8.61 |
| Intermediate/+2 | HSC | S.P.College | 2012 | 87.67 |
| Matriculation | CBSE | Jnana Prabhodhini Prashala | 2010 | 94.20 |

## Academic Achievements:

- Currently **Department Rank 3** in a class of **125 students.**
- Secured **AIR 2302** in **IITJEE, 2012** among 5, 00,000 aspirant.
- Secured **122 state rank** and **2560 All India rank** in **AIEEE.**
- Received the certificate of Merit in **National Talent Search Examination (NTSE).**
- Qualified for **INMO (Indian National Mathematics Olympiad)** 2011 by securing 18th rank in **RMO (Regional Mathematics Olympiad)**
- Qualified first round on **KVPY (Kishore Vaigyanik Protsahan Yojana)** 2011.
- Qualified for **INPho (Indian National Physics Olympiad**) 2012
- Awarded **AP Grade** for Excellent performance in **Engineering Drawing**.

## Key Academic Projects:

**Designing Superhydrophobic Surfaces:** *Guide Prof. Ajay Panwar*       *(Dec'13 – Till Date)*

- Studied the effect of roughness on Contact Angle.
- Design Hierarchal microstructure array to optimize superhydrophobic properties and stimulated the result in COMSOL.

**Lighter Than Air-Aircraft:** *Guide Prof. Rajkumar Pant*       *(Jul'13 -Till date)*

- Unmanned Air Vehicles (UAV) is very useful as they save the pilot from being harmed. They are inexpensive and have numerous uses.
- Worked on designing airship to cater the lighter than air-aircraft, used **Mylar** to construct the airship.
- Designed propulsion and control system of the aircraft using ATMEGA-256 platform, capable of navigating using GPS.

**Line Runner (C++ Project):** *Guide Prof. Abhiram Ranade*       *(Aug'12 - Nov'12)*

- Created a game (like a Famous game **Mario**) in C++ by simulating laws of Physics (motion and collision)
- Introduced customized difficulty levels in the game, using graphical interface.

**Bicopter (summer project)**       *(May'13 - Jun'13)*
- Designed and built a **VTOL** aerial vehicle , inspired from Avatar movie under Aeromodelling Club IITB
- Stimulated all direction motion (roll, yaw, pitch) using **MATLAB** tool Simulink.

**Extra-Curricular**

**Technical Activities:**

- Designed and constructed a wireless **RC car** capable of traversing obstacles like inclinations, speed breakers and potholes.
- Designed an **Autonomous sensor controlled bot** based on AVR microcontroller to follow a white line on a black surface with Arduino programming.
- Modelled **RC plane** under Aeromodelling Club IITB.

**Cultural Activities:**

- Selected for International Children Home Stay Programme held in **Okayama Japan**. Participant countries where Japan, India, USA, China, Korea **(Aug'06)**
- Passed Praveshika Purna (held by Gandharva Mahaviyalala)**, Tabla** with Distinction.

**Miscellaneous:**

- Summited 16,000ft: **Basic Mountaineering Course**: 26 days course in rock, ice & snow.
- Active player of **Volley-Ball** at inter-hostel level.
- Successfully completed **Pune International Half-Marathon (21 KM)** in 2hrs 25 min.

**Technical and Programming Skills**

- *Programming Languages Known* : C, C++
- *Basic knowledge* of MATLAB, LTSpice (Simulation software), AVR microcontroller Programming, Solidworks.
- *Database Tools*: SQL, MySQL
- *Web Designing*: PHP, HTML, CSS

**Position of Responsibility**

**Coordinator UMIC- IIT Bombay, Innovation Cell**          *(July 2013-Present)*
*Innovation Cell aims to foster an atmosphere of creativity, innovation and exploration in the campus*
- Promoting innovative thinking by implementing new Ideas and providing students with a platform to realize their innovative ideas
- Roping in participation of **alumni and faculty members to motivate students**.
- Leading a team of 10 freshmen **for ASME Student Design Competition 2014** building lighter Than Air-aircraft.