Alap Kshirsagar			100100022	
Mechanical Engineering			UG Third Year (B.Tech.)	
Indian Institute of Technology, Bombay			Male	
Specialization: None			DOB: 29/12/1992	

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.86
Intermediate/+2	Maharashtra State Board	Santaji Mahavidyalaya	2010	94.67
Matriculation	Maharashtra State Board	Somalwar High School,Khamla	2008	90.00

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 289** in IIT-Joint Entrance Examination, amongst about 4.7 lakh candidates
- Secured **All India Rank 429** in AIEEE and **state rank 35**, amongst about 11 lakh candidates
- Selected in **National top 300** students to qualify for **Indian National Physics, Chemistry and Astronomy** Olympiads
- Secured state rank 15 in **RMO** and selected for Indian Mathematics Olympiad (IMO)
- Secured All India Rank 57 in **National Cyber Olympiad** conducted by Science Olympiad Foundation
- Awarded **NTSE** (National Talent Search Examination) scholarship, awarded to top 750 High School students across India
- Selected for **KVPY** (Kishore Vaigyanik Protsahan Yojana) scholarship by IISc, Bangalore

INDUSTRIAL EXPERIENCE

➢ **Mahindra and Mahindra Limited**, Nagpur   *June 2012 –July 2012*
- Undergone Inplant training in **Engine Assembly** Plant of Farm Equipment Sector.
- Studied the steps involved in assembly of different engines used in Mahindra & Mahindra Tractors and various **Quality Control measures** including Poka Yoke.
- Worked on design of **Slat Conveyors and their sub-assemblies** in Engine assembly division.
- Investigated the design of Pegs used for mounting engines by analyzing the effect of loads on them.

PROJECTS

➢ **Upscaling of Fabric Cutting Machine**   *January 2012- to present*
Guide : Prof. Suhas S. Joshi, Mechanical Engineering, IITB
- Developing a **Saree Cutting Machine** to increase the productivity of mat-making handlooms which are operated by visually impaired people.
- Designed various **human-powered prototypes** for single-layer as well as multi-layer saree cutting and estimated their productivity.
- Project selected for funding by **Rural Technology Action Group** (RuTAG) initiated by the Principle Scientific Adviser to the Government of India.

➢ **Library Book Keeping Robot**   *September 2011-January 2012*
- As a part of 9 member team, designed and fabricated a prototype **mobile-machine for automatic navigation and placing of books** on respective shelves in a Library.
- Developed mechanisms for lifting and pushing books and the drive unit of machine. Prepared **CAD models** of sub-systems and the integrated assembly.
- Showcased in '**Techconnect Exhibition**' at Techfest-2012, the annual technological festival of IIT-Bombay

➢ **Hydraulic Bot**   *February 2011- March 2011*
- Designed a **4 DoF, hydraulic controlled** robotic arm with rotating base and Jaw-gripping mechanism.
- Extended this concept to make a **rope-climbing robot** in which a different technique of making enclosure casings for fixing piston-syringes was implemented.

➢ **All Terrain Bot** *May 2011-June 2011*
  • Developed a 4-wheeled robot for rugged terrain with features like stair-climbing, wireless control using X Bee, accelerometer based remote control, obstacle detection, RPM measurement and LCD display.

➢ **Robotic Arm** *May 2012 – June 2012*
  • Built a **6 DoF, servo controlled** robotic arm with gripper.
  • Investigated the effect of loads by **analyzing the 3D model** in Autodesk Simulation Multiphysics to calculate torque requirement of servo motors.

➢ **Word Mole** *February 2010-March 2010*
Guide : Prof. R. K. Joshi , CSE Department, IITB
  • Developed a word game based on the idea of Scrabble
  • Designed the game and interactive platform using FLTK library in C++ on Linux(Ubuntu) environment

TECHNICAL SKILLS

Programming : C/C++, HTML, CSS, ActionScript 1.0
Softwares : Working knowledge of - Autodesk Inventor, Autodesk Simulation Multiphysics, ANSYS, Solid Works, MATLAB, Sony Vegas, Adobe flash, Adobe After Effects
Operating System : Comfortable in working on Windows, Linux (Ubuntu Distribution)

EXTRA CURRICULAR

  • Awarded '**Institute Technical Special Mention'** for notable contribution to IITB's technical activities in the academic year 2011-2012
  • Awarded '**Hostel Technical Special Mention'** and '**Hostel Sports Special Mention'** - 2012
  • Made a **tower crane model** using Pop-sickle sticks, for Techfest'11 competition Fulcrum
  • Member of Hostel's **Hockey** Team, which won Inter Hostel Freshmen & Sophomore Competitions
  • **Best Student Award** for all round performance in school
  • Selected in top 50 teams for final round of **Technothlon** in Techniche'09, IIT- Guwahati
  • Awarded **NCC 'A' certificate**
  • Qualified for Regional level of **National Science Congress,** environmental Project presentation competition
  • Active member of Group For Rural Activities IIT Bombay
  • Passed the 'Yellow Belt Exam' in Judo (April 2012)

POSITIONS OF RESPONSIBILITY

  • Worked as Organizer, Mood Indigo- Cultural Festival of IITB, in Hospitality and Competitions Departments
  • Worked as a Co-ordinator of Robotics Club under Students Technical Activities Body of IITB (a student body responsible for conducting robotics activities in IITB)

ADDITIONAL COURSES UNDERTAKEN (*till Autumn 2012*)

Minor Courses (Aerospace Engineering Department)	Other courses
Introduction to aerospace engineering	Finite element and Boundary element methods
Fundamentals of Aerospace Propulsion	Sanskrit for Indian Science
Aircraft Design	Introduction to numerical analysis