Ajinkya Kadu | **100010058**
Aerospace Engineering | **UG Third Year (B.Tech.)**
Indian Institute of Technology, Bombay | **Male**
Specialization: None | **DOB: 20/04/1993**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2013	8.22
Intermediate/+2	Andhra Pradesh State Board	Delta Junior College, Hyderabad	2010	92.60
Matriculation	Maharashtra State Board	Shri Samarth High School, Amravati	2008	94.61

ACADEMIC ACHIEVEMENTS

- Minor Degree in Applied Statistics and Informatics
- Top Grade in Control of Mobile Robots course delivered by Prof. Ashok Joshi
- Secured Top position in Indian Physics Olympiad (InPhO) in Intermediate College.
- Secured 1st Rank in Secondary School Certificate Examination among 500 school students

B. TECH. DISSERTATION

Aero Engine Design Software Jan, 2013 – Present

*Applying **Propulsion Theory** to develop a Graphical Advanced Design Software*

- Investigated Design Point Procedure for multi-functional engines to get performance maps for each component
- Designed a Java based Graphics User Interface using SWING tools for proper interaction between Computer and Designer
- Planned to do the three-dimensional modelling of Gas Turbine in Solidworks / Catia using basic coordinates available from design point analysis
- Expected to find out performance characteristics of Gas Turbine using numerical simulation with the help of cfd tools

SUPERVISED LEARNING PROJECT

Review of Aeroelasticity of Helicopters Jan – April, 2013

Literature Survey Project

- Understanding flight performance parameters with the help of Actuator Disk Theory and Blade Element Theory
- Designing of Blade for Axial Climb, Descent and Hover Flight in SOLIDWORKS with the help of SCILAB code for estimation of blade parameters.
- Analyzing the Aerodynamics and Performance of Bell AH-1Z Viper in Hovering, Axial Climb and Forward Flight as given in the book “Principles of Helicopter Aerodynamics” by J. Gordon Leishman.

NON – ACADEMIC PROJECTS

Strategy Analysis of *Flipkart.com* Feb – April, 2013

Applying Business Strategy Tools to analyze the competitive business of firm

- Exhaustive and independent research using the data and information gathered
- Analyzing the organization's competitive situation in Indian Market and past decisions taken using SWOT analysis and Environmental Analysis
- Discussing the strategic groups that constitute the industry and identify major competitors within each strategic group and Making recommendations for actions to improve their current competitive position using Strategic Tools

ACADEMIC PROJECTS

- **Propeller Design for High Speed Subsonic Aircraft** Jan – Feb, 2013
  Powerplant Design Project
  - Designing of Suitable Propeller in CATIA for turbofan Engine PW 123E mounted on Dornier 328 by Fairchild Aircraft which cruises at 0.6 Mach with the help of Advanced Blade Element Momentum Theory
  - Designing of Compressor and Turbine with the help of theory taught in "Design of Powerplants" course by Prof. B. Roy for combination of maximum efficiency and high performance.
- **Aerodynamic Lift Estimation of Aircraft** Aug – Nov, 2012
  Applied Aerodynamics and Numerical Techniques for computation of lift
  - Analyzed the theory of Aerodynamics from Book "Aerodynamics for Engineers" by Bertin and Smith and Calculated Lift Coefficient of Wing for small angle of attack with different taper ratio and swept angles
  - Computed lift distribution over the surface of aft-swept, un-swept and forward-swept wing with help of MATLAB and SIMULINK
- **System Analysis of Clutch – Motor for BMW X-30** Jan – April, 2012
  Modelling and Simulation Project
  - Exhaustive data analysis of performance parameters for BMW X-30 and modeled the system using Statistical Analysis
  - Modeled clutch – motor system using physical laws and Simulated the system to get Engine, Vehicle and Shaft speed for given torque using SIMULINK
  - Matched the Statistical Analysis model with Mathematical model and reduced the cost of Experimentation.
- **Information Bulletin Board** July – Nov, 2011
  Engineering Design Project
  - Designed multi - utility Bulletin Board for News Update using Quality Deployment Function and House of Quality Diagram to reduce the experimentation cost.
  - Presented a prototype of Hostel notice Board with the help of SOLIDWORKS and mechanical workshop tools and Implemented the product in various schools across the country.
- **Mastermind Game** Jan – April, 2011
  Applied Computer Programming Skills to design a board game
  - Designed a multiplayer game using Graphics User Interface developed using Fast Light ToolKit (FLTK) as a part of course "Computer Programming and Utilization"

POSITION OF RESPONSIBILITY

- **System Engineer, Pratham** March, 2013 – Present
  Leading a Team of 40 Members for development of IIT Bombay's first Satellite, Pratham which will be launched into a geostationary orbit after April, 2014
- **Department Academic Mentor** March, 2013 – Present
  Guiding 10 students of Aerospace Department of IIT Bombay for completion of their successful sophomore and Advising to achieve their career goals.
- **Council Member, Aerospace Engineering Association** Feb, 2012 – March, 2013
  Arranged Department Kurta Day, Freshmen Orientation, Department Cultural Day, Teacher's Day Ceremony, Award Ceremony for Students and Professors of Aerospace Department, IIT Bombay
- **Events Manager, Zephyr** April, 2012 – March, 2013
  - Arranged Lecture Series for Annual Aviation Festival of IIT Bombay by inviting Guest Speaker Dr. Saraswat
  - Coordinated in conducting Rubber Ornithopter workshop for 25 teams from across the country
  - Led a Coordinator Team of 20 students for successful completion of Competitions, Airshow and Netra Demonstration

TECHNICAL SKILLS

- **Programming Language**: Java, C++, Objective C, Python, Visual Basic, MySQL, HTML, XML
- **Software Efficiency**: Adobe Photoshop, After Effects, Microsoft Office, MATLAB, Mathematica, Catia, Ansys Solidworks, GasTurb, ChemKIN
- **Operating System**: Unix, Linux, Windows 7

ACADEMIC COURSES

- **Statistics**: Data Analysis and Interpretation, Probability Theory, Combinatorics
- **Aerospace**: Structures**, Propulsion**, **Aerodynamics**, Engineering Design, **Aviation Fuels and their Combustion**, Gas Dynamics, Design of Power plants, **Engineering Design Optimization**, Flight Mechanics
- **Mathematics**: Calculus, Linear Algebra, Differential Equations, Complex Analysis, Numerical Analysis
- **Other**: Mathematical Structures for system and Control, Electronic Devices, Signal and Systems, Sociology, Computer Programming and utilization (C++), Economics

EXTRA – CURRICULAR ACTIVITIES

- Made an Autonomous Vehicle for the event of iNexus – No Man's Land using 8085 Controller Coding.
- Winner of Aerospace Cricket Tournament organized by Aerospace Engineering Association of India in consecutive two years 2011 and 2012
- Merit to top 30 players for the selection of Inter – IIT Cricket Trials
- Merit to the final of Intra – Hostel Football League
- Represented Kolkata Knight Riders as an All – Rounder in CricMania, Cricket League of IIT Bombay and Renowned as a best bowler for Team
- Represented Hostel - 7 In Sophie Footer GC held in September of 2011.

Interests: Cricket, Football, Metal Music, Poker