		Sushant Agarwal		09D01023	

Sushant Agarwal
Aerospace Engineering
Indian Institute of Technology, Bombay

09D01023
UG Third Year(Dual Degree)
Male
DOB: 08th Sept 1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.19
Intermediate/+2	CBSE	Maheswari Public School	2009	93.20
Matriculation	CBSE	Mayoor School	2007	90.00

SCHOLASTIC ACHIEVEMENTS

- Secured **State Rank 4** and Awarded the 'Whiz-Kid medal' in the **National Cyber Olympiad**
- Awarded the Brilliant Student Medal in the All Rajasthan Dainik Bhaskar Talent Scholarship exam
- Currently undergoing the **Minor program** in the School of Management, IIT Bombay – completed courses on '*Marketing Management*', '*Human Resource Management*' and '*Operations Management*'
- Successfully qualified the initial round of the National Standard Examination in Astronomy (NSEA) organized by the Indian Association of Physics Teachers (IAPT)

POSITIONS OF RESPONSIBILITY

MANAGER (EVENTS), TECHFEST 2012 (April '11 – Jan'12)
Asia's Largest Science and Technology Festival, Patronized by UNESCO   (Budget: INR 13.0 million, Footfall: 92,000)
- Led a 2 tier team of **100** students to execute 'Pro shows' showcased to a crowd of over **30,000**
- Administered a shoestring budget of **INR 2.5 million** for successful execution of events featuring more than **30 international artists** from **8 different countries**, all performing for the first time in India
- Generated a sponsorship amount of **INR 2 million** by affiliating with **foreign embassies and consulates**
- Organized an International Level Robotics Challenge, inviting participation from renowned international universities in **Australia, Thailand and Sri Lanka**

Key Initiatives
- Conceptualized "WAVE" a **3000 km road campaign** by Swiss electric cars to promote green fuels; coordinated with 10 membered foreign contingent and 80 membered student team for its execution
- Spearheaded a **first-of-its-kind** competition in India - Social Buzz - in which participants chose and executed their green ideas and conveyed their ideas to larger audience through online social media tools
- Worked with **NGOs** and experts from academia to conceptualize "Earth", a techno-entrepreneurial competition, in which over **100 innovative ideas** for environmental problems

COORDINATOR, TECHFEST 2011
- Managed a **3D Projection Mapping show** from France, performing for the first time in India
- Successfully coordinated the **Bhubaneshwar chapter of Nexus** – a national robotics competition conducted by Techfest in various colleges across the country

AEROMODELLING CLUB MANAGER (July '10 – April'11)
Personally responsible for aeromodelling activities as part of STAB, the Institute technical team
- Pioneered flying sessions to teach remote controlled plane flying to the students in the institute
- Organized talks, hands on sessions, games and mentored students to promote aeromodelling
- Led to a substantial **70% increase** in the participation of these activities in the institute

SOFTWARE SKILLS

Toolsets: MS Access, SQL for *database management*; MS Project for *project management*;
          MATLAB, Simulink, Scilab for *modeling and simulation*;
          LATEX for typesetting; SolidWorks**,** SketchUp for *3D CAD*;

Programming: C, C++, PL/SQL **,** Visual Basic, Python

TECHNICAL PROJECTS

EXPERIMENTAL MODELING OF SERVO MOTORS   (Jan '12 – Apr '12)
Project Guide : Prof. Hemendra Arya
- Analyzed hysteresis, dead zone and backlash of different servo motors through experimentation
- Performed dynamic tests to study the behavior with loading and variable frequency PWM
- Successfully integrated miniature load cell to load the servo and modeled the changes

SIMULATION OF NON LINEAR DYNAMICS OF WING ROCK   (Jan '11 – Apr '11)
Project Guide : Prof. Ashok Joshi
- Analyzed the nonlinear behavior of delta wing aircrafts at high angle of attacks to model the roll motion
- Successfully simulated the roll oscillations in MATLAB by solving nonlinear differential equations
- Extrapolated the experimental behavior to predict the roll oscillations at adverse angles of attacks

COCKPIT DESIGN OF CESSNA 172 FOR FLIGHT SIMULATOR   (Aug'11 – Nov '11)
Exhibit for Techconnect – Exhibition for showcase of R&D of IITB
- Managed to get the output of simulator on four different monitors to duplicate the cockpit of the plane
- Replicated the ergonomics and design of the cockpit and made a cockpit according to the dimensions
- Designed and developed a **prototype** of the device, bringing about substantial **cost reduction**

WORKING MODEL OF AN INVERTED PENDULUM   (May '10 –June '10)
Summer Project as an ECSP project
- Worked in a 3 membered team to balance inverted pendulum using PID control on a microcontroller
- Developed an interface in Python to show the live feedback from the Atmega microcontroller

MANAGEMENT AND DESIGN PROJECTS

MARKETING ANALYSIS OF TATA MOTORS   (Oct '11 –Nov '11)
Marketing Management course project under supervision of Prof. Dinesh Sharma
- Studied **SWOT, PEST analysis, Marketing Mix** strategies to get an insight of the marketing strategies
- On the basis of Segmentation, Targeting and Positioning of passenger vehicles concluded the study by showing need of a crossover product between a Sedan and SUV to increase the market

DESIGN PROCESS FOR A MULTI-FUNCTION PEN   (July '11 –Nov '11)
Engineering design course project under supervision of Prof Sudhakar and Prof.Mujumdar
- Successfully applied Quality function deployment(**QFD**) to transform user demands into design qualities
- Worked in a 6 membered team to conceptualize the design, on the basis of needs and requirements

REGISTRATION INTERFACE FOR MINI UID PROJECT   (July '10 –Nov '10)
Under the guidance of Prof D.B. Phatak as a course project
- Led a 4 membered team to code the registration interface for the project in C++
- Managed to reduce the memory of the database by 30% by through efficient file management

MENTORING EXPERIENCE

MENTOR, HOVERCRAFT PROJECT   (May '11 – July '11)
Guided a 5 membered team to develop a wireless hovercraft as ECSP project
- Motivated and guided -the team to make the hovercraft **wireless**
- Suggested cheaper alternatives to the team and managed to cut the cost by 75%

EXTRA-CURRICULAR ACTIVITIES

- Awarded Department Person of the year (organizational) for improving the aeromodelling scenario
- Made an autonomous line follower robot capable of navigating by detecting lines on the path
- Achieved 1st position in the Inter School Orchestra competition and like to play Hawaiian guitar
- Represented the hostel in various Technical Inter Hostel General Championships
- Member of the academic council team which suggested efficient changes for the course numbering