Kaushal Jain   09010005
Electrical Engineering   **UG Third Year(Dual Degree)**
Indian Institute of Technology, Bombay   Male
Specialization: Microelectronics   DOB: 24 Nov 1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	9.29
Intermediate/+2	Gujarat Secondary and Higher Secondary Education Board	Baroda High School, Alkapuri	2009	88.31
Matriculation	Gujarat Secondary and Higher Secondary Education Board	St. Paul's School	2007	92.92

SCHOLASTIC ACHIEVEMENTS

- Cleared **National Talent Search Exam** conducted by the **NCERT** and awarded **scholarship** *(2007)*
- Qualified in **INChO**[Indian National Chemistry Olympiad] for being amongst **top 1%** in India *(2009)*
- Ranked at **99th Percentile** and awarded High Distinction in **Mathematics** in the International Assessment for Indian Schools by Macmillan India **consecutively** for **3 years** *(2006,2007,2008)*
- Awarded the **Principal's Medal** for overall **best child** in Secondary School *(2007)*

INTERNSHIP

TouchMagix Media Pvt. Ltd., Pune, India   *(May 2011-Jul 2011)*

- Innovated a **3D interactive game** completely controlled by **body motions** for Windows
- Extracted meaningful data for game after **analyzing raw depth maps** given by Microsoft Kinect sensor, commonly used with **Xbox 360** gaming console
- Developed and executed **algorithms** for smooth and **natural body control** of the virtual character in the adventure 3D interactive game
- Conceptualized the entire game play and executed it in **Unity3D** game engine; a multi platform game development tool used by over 500,000 users across the globe
- Experimented on the **precision** values given by **Kinect sensor** by examining the accuracy of the depth information at various distances from the sensor
- Volunteered to take **2 day tutorials** on 3D game development concepts and applying them in Unity3D for the company and was **highly appreciated** for the same

PROJECTS

Mindspace (MIT Media Lab Workshop 2011)   *(Jan 2011)*
A PC 3D interface with Microsoft Kinect camera (Group of 5)

- **Segmented** out **human body** from the depth maps using CL NUI drivers for Kinect and used that information to show a **user's perspective** of a 3D image on screen using OpenGL library
- Successfully demonstrated features like zoom in, zoom out and pan left, pan right based on body movements

Karan Arjun -Mars Manouvere (TechFest 2011)   *(Dec 2010–Jan 2011)*
A grid solver robot for TechFest 2011

- Built an **autonomous robot** that manouveres a 7*7 grid and brings back blocks of specific color
- Also constructed a **manually controlled robot** which goes and deposits the autonomous robot
- Worked extensively with microcontrollers, gripper mechanisms, Infra Red and sharp sensors
- Our 6 member team reached the **National Finals** of this contest

Tracker Bot/ Bot Follower   *(May 2010-Jun 2010)*
Group Summer Project under Electronic Club of IIT Bombay

- Built a robot that **autonomously follows** another robot based on **Image Processing**
- Developed code inputs from an overhead camera; process it using and give appropriate signals to the follower robot using serial port communication
- Applied **Proportional and Differential controls** for more precise motions

Response Tester (Digital Lab Project)   *(Mar 2011-Apr 2011)*
Guides: Prof. Sachin Patkar and Prof. Udayan Ganguly

- **Applied** basic digital logic to build a **game** which **tests your reflexes** and gives you the score based on your performance
- Implemented Random Number Generator using Timers, worked with 7 segment displays, relays, flip flops and other basic digital blocks

Mini UID Project (Unique Identification)   *(Oct-Nov 2009)*
Guide: Prof. Deepak B. Phatak

- **Coordinated** a group of **20 colleagues** for the registration part of the project
- Developed a **Graphical User Interface** using Qt 4 Designer for taking personal data (after validation) and fingerprints from biometric device for the purpose of unique identification

OTHER TECHNICAL INVOLVEMENTS

- Served as **Technical Secretary** of my Hostel (strength 350)   *(2010-2011)*
- Was a member of the **TechniC** - Technical Club of IIT Bombay   *(2010-2011)*
- Designed a **solar boat** capable of running in water on solar energy in **Techfest**. Learnt and applied the working of commonly used solar engines (in small scale robotics)   *(Dec 2010)*
- **Mentored** the first year students for **Track Mania**, a robotic car making competition   *(Aug 2010)*

SOFTWARE SKILLS

- **Software:** Basics of Scilab, Mathematica, Eagle, Visual C/C++, Matlab, PSpice, LTSpice
- **Languages:** C,C++, Verilog HDL, Assembly language (8085)
- **Web designing:** HTML, CSS
- **Microcontroller:** AVR Dude, WinAVR, Arduino

KEY COURSES

- Data Structures and Algorithms
- Calculus, Algebra, Differential Equations
- Data Analysis and Interpretation
- Economics and Psychology
- Engineering Graphics and Drawing
- Foundations of VLSI CAD
- Communication Systems

- Network Theory
- Machines and Power Electronics
- Microprocessors
- Analog and Digital Circuits
- Probability and Random Processes
- Signals and Systems
- Electronic devices and Circuits

POSITIONS OF RESPONSIBILITY

Core Team Member, Events, Student Alumni Relations Cell, IIT Bombay   *(Mar 2011-ongoing)*

- Collectively **leading** a team of over **30 volunteers** for building better student alumni relations and creating a platform where students can benefit from alumni
- Jointly coordinating the planning, conceptualization and execution of the first ever Student Alumni Meet to be held in IIT Bombay
- Ensured smooth organization of SARC initiatives such as interactive lectures from alumni and phonathons (telephone marathons where student volunteers connect with alumni)

Other positions

- Served as **Vice School Captain** (2006) and **School Captain** (2007) in secondary school

EXTRA-CURRICULAR ACTIVITIES

- Secured highest grade (A) in Basic Mountaineering Course, conducted by **ABVIMAS** (Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports) under **Indian Mountaineering Federation**
- Learnt various techniques for **rock-climbing**, **ice-craft** and **snow-craft**
- Scaled **15,700 feet** in the **Himalayas**   *(July 2010)*
- Won numerous elocution, essay writing and quiz competitions at inter-school level
- Won 3rd Prize in **State Level Environment Quiz** competition in Gujarat