Ashwin Kachhara	10D070048
Electrical Engineering	UG Second Year
Indian Institute of Technology, Bombay	Male
Specialization: Communication & Signal Processing	DOB: 28/12/1992

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	9.75
Intermediate/+2	CBSE	S.G.S.A.M.N. English Medium School	2010	87.80
Matriculation	CBSE	Sri Sathya Sai Vidhya Vihar	2008	92.67

Scholastic Achievements

- Topped the first semester by achieving a Semester Performance Index of **10/10**

- **AP grade** for outstanding performance in CS101: Computer Programming course

- Secured All India Rank 291 in IIT-Joint Entrance Examination 2010

- All India Rank 145 in National Science Talent Search Examination (NSTSE) 2008 conducted by Unified Council

- All India Rank 170 in National Cyber Olympiad (NCO) 2008 conducted by Science Olympiad Foundation

Internship

- **Social Coin Foundation**   Mumbai
  Web Development   *Dec. 2011*
    – Worked as an Intern as part of the Web Development team of Social Coin, responsible for the backend and basic frontend of their website, *www.socialcoin.org*
    – Developed models, controllers and basic views(HTML,CSS, some JavaScript) for **Fundraisers** functionality including profile page & photo albums according to the MVC framework used by CakePHP
    – Presented a detailed report on the steps/considerations to be taken while implementing the first phase of Search Engine Optimization of the website

Projects

- **Biometric Attendance**
  Wadhwani Electronics Lab(WEL) Challenges   *Aug. 2011 – Present*
    – Indigenously developing a portable fingerprint recognition device for the purpose of class attendance
    – Currently working on a Texas Instruments Fingerprint Development Kit based on a DSP Processor

- **Infra Red Harp**
  Electronics Club Summer Projects(ECSP 2011)   *May 2011 – Jun. 2011*
    – Part of a 5 member team to build an electronic version of the harp musical instrument using Infra Red sensors instead of strings and digital synthesis of sound
    – Generated various waveforms and investigated ways to make the waveforms sound closer to their actual counterparts
    – Was responsible for the **programming, circuit design and testing** in the project

- **Working of ADSL Modem**   Guide: Prof. J. M. Vasi
  EE112 Term Paper   *Feb. 2011 – Mar. 2011*
    – Disassembled and analyzed an ADSL modem, understanding its architecture and identifying various integrated chips and their role in the functioning of the device
    – Summarized the working of the major components into a block diagram

- **Foosball**   Guide: Prof. D.B. Phatak
  CS101 Course Project   *Sep. 2010 – Nov. 2010*
    – **Group Coordinator** of a 13 member team of students that designed the C++ program of Foosball Game
    – **Team Leader** of the Graphics Team, which rendered Graphics by using EzWindows API
    – Worked on integrating the code of all three teams(viz. Graphics, Collisions and AI) into the final program
    – This project also includes AI which is competent enough to beat the human player

Computer Proficiency

Languages: C/C++, LaTeX, Python, MATLAB & OpenCV(basics)

Web: HTML, CSS, JavaScript(basics), PHP, CakePHP Framework

Operating Systems: Microsoft Windows, Linux(Ubuntu), Mac OS

Software: Microsoft Office, Adobe Photoshop, LTSpice, EAGLE, KiCAD

Positions of Responsibility

- **Coordinator**
  Electronics Club, IIT Bombay   *Aug. 2011 – date*
    - Member of Students Technical Activities Body(STAB) Team 2011 – 2012
    - Responsible for the conceptualization and execution of various events, talks and hands-on sessions of Electronics Club such as TrackMania, Line Follower etc. throughout the year
    - Teaching freshmen on topics as diverse as light sensors to opamps to microcontroller programming
    - Creating tutorials for Image Processing(OpenCV) in wiki format on STAB Website

- **Coordinator(Events)**
  Techfest 2012, IIT Bombay   *Jan. 2012*
    - Worked on conceptualization of the events and attractions at Ozone in Techfest, Asia's largest college technical festival
    - Supervised the setup and running of **Laser TAG, Archery & Rifle Shooting** during Techfest

Extra Curriculars

Technical Activities

- Actively contributed in inter- hostel Technical General Championships (GCs) leading to an overall second place for my hostel in the Technical GC at the end of the 3rd semester
- Built an Autonomous Line Following bot based on an AVR microcontroller to traverse a white line on a black arena for the Line Follower Competition organized for Freshmen at IIT Bombay
- Designed and built a remote controlled all terrain bot for the TrackMania competition organized for Freshmen at IIT Bombay

Music

- Passed Foundation Level Graded Examination in Music Performance(Solo Piano) conducted by International Examinations Board of Trinity College, London
- Successfully completed 1 year of NSO training in Music (Violin)

Interests

- Coding, Image Processing, Robotics, Economics
- Music, Inline Skating

Courses (by April 2012)

Core Courses

- Signals and Systems, Digital Systems, Analog Circuits, Electronic Devices
- Electrical Machines and Power Electronics, Network Theory
- Introduction to Electrical Systems, Introduction to Electronics
- **Lab Courses:** Electronic Devices, Analog Circuits, Digital Circuits, Electrical Machines

Mathematics & Computer Science

- Complex Analysis, Differential Equations, Linear Algebra, Calculus
- Data Structures and Algorithms, Discrete Structures, Computer Programming and Utilization

Breadth

- Microeconomics, Macroeconomics, Data Analysis and Interpretation
- Environmental Science & Engineering, Environmental Studies
- Experimental & Measurement Lab, Engineering Graphics & Drawing