	Ravinder Singh	08005018
	Computer Science & Engineering	**B.Tech.**
	Indian Institute of Technology, Bombay	**Male**
		DOB: 18-03-1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.96
Intermediate/+2	CBSE	St. Xaviers Sr. Sec. School	2008	92.40
Matriculation	CBSE	St. Xaviers Sr. Sec. School	2006	95.40

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 18** in IIT-JEE among 3,20,000 students *(2008)*
- Awarded **Gold Medal** (top 25 out of 40,000) in **Indian National Chemistry Olympiad** (InCho) *(2008)*
- Ranked in National Top 1% in Indian National Physics Olympiad (InPhO) *(2008)*
- Ranked in National Top 1% in Indian National Astronomy Olympiad (INAO) consistently *(2007,08)*
- Secured **All India Rank 114** in AIEEE among 8,00,000 students *(2008)*
- Awarded **AP grade** (a grade given for exemplary performance) in Psychology *(2010)*
- Completed **Minor in Management** offered by S.J. Mehta School of Management, IITB *(2011)*

SCHOLARSHIPS

- **Sole Recipient** of the prestigious **OP Jindal Engineering and Management Scholarship** from IITB first year undergraduate batch awarded for Academic and Leadership Excellence *(2008)*
- Received **Kishore Vaigyanik Protsahan Yojana** scholarship by Indian Institute of Science *(2007)*
- Received **CBSE Merit** Scholarship for securing position in merit list in AIEEE *(2008)*
- Awarded **National Talent Search (NTSE)** and **State Science Talent Search** Scholarships *(2006)*

INDUSTRIAL EXPERIENCE

MICROSOFT India Development Center, Hyderabad

X- Platform SharePoint Mobile Apps *(May '11 – Jul '11)*

- Implemented **SharePoint functionalities on mobile platforms** such as Android and Windows Phone7
- Proposed and implemented a feasible third-party **Push Notification Service** after analysing three most popular services currently available
- Created server-side **SharePoint Apps** to create customized SharePoint sites and attach remote event services to these sites
- Used **Model View ViewModel(MVVM)** framework in Android App to separate UI concerns and data handling transformations for modular app development

INFORMATICA Business Solutions Pvt. Ltd., Bangalore

Infadoop – Integration of Informatica Transformations with Hadoop *(May '10 – Jul '10)*

- Conversion of **data transformation mappings** to **Pig Latin**, a procedural Data Manipulation Language
- Enabled data transformations to run over Hadoop platform involving a cluster of 1024 nodes leading to a tremendous increase in efficiency
- Used graph traversal algorithms to modify the Directed Acyclic Graph formed by the data transformations' sequence
- Implemented wrappers for **User Defined Functions** to enhance the power of Pig Latin to allow user to have access to several complicated data transformations with a richer functionality

RESEARCH PROJECT

QUANTIFIED BOOLEAN FORMULA SOLVER *(Nov '09 – Dec '09)*

- Implemented a solver for this canonical PSPACE complete problem which is a **generalisation of the Boolean Satisfiability Problem**
- Implemented **new algorithm** based on DPLL paradigm that traverses the quantifier prefix inside out
- Achieved **a 7%** improvement in the overall performance of the solver by extensive use of OOP

ACADEMIC PROJECTS

FOREIGN STUDENT EXCHANGE SYSTEM *(Sep '10 – Nov '10)*
- Designed and implemented an application for facilitating student exchange with foreign universities
- Implemented **Term Frequency – Inverse Document Frequency** algorithm for equivalent course mapping on the basis of content descriptions
- **Cached** recent results to optimise search of equivalent courses, leading to **13%** increase in efficiency

ARTIFICIAL INTELLIGENCE MINI PROJECTS *(Sep '10 – Nov '10)*
- Developed a **puzzle solver using A*** search algorithm to solve various classic puzzles
- Implemented a sentence-to-predicate converter using Prolog; POS tagger using Hidden Markov Models
- Presented a seminar on **Robotic Consciousness**

AUTONOMOUS WAITER ROBOT *(Feb '11 – Apr '11)*
- Programmed a robot to take orders from customers wirelessly and serve the requested dishes
- Used Image Processing to **identify objects** on the basis of **colour**
- Implemented an efficient **solution to localization problem** to place the bot at the correct coordinates and orientation at the desired table

VIRTUAL MEMORY AND FILE SYSTEM SIMULATOR *(Sep '10 – Nov '10)*
- Simulated and analysed the working of cache, main memory and virtual memory in C++
- Implemented the file system functions performed by OS like creating a directory structure

POSITIONS OF RESPONSIBILITY

GENERAL SECRETARY, COMPUTER SCIENCE AND ENGINEERING *(Apr '11 – till date)*
Elected Representative of 600 students and bearer of the highest position in a student council of 20 members
- Headed a team of **10 members**, tasked with academic **curriculum review**
  - Explored and suggested desirable changes on the basis of student and faculty feedback
  - Conducted Open House for discussions to reach consensus on the proposed changes
- Initiated **maintenance of structured repositories** of courses containing basic outline and required resources like tutorials and previous years' question papers
- Implemented initiatives like faculty and student talks for the promotion of research

MANAGER, EVENTS – CONVERGENCE, CSE ANNUAL FESTIVAL *(Dec '10 – Mar '11)*
- **Co-founding** member; transformed a workshop (3 years back) to a fully fledged 2 day festival
- Headed a team of **15 coordinators** and revamped the structure of the event to showcase different aspects of the ongoing research in department
- Meticulously managed a budget of **INR 2,50,000** for the execution of lecture series and competitions
- Successfully executed inter-college competitions, involving **500+** participants and **40+** colleges

ALUMNI SECRETARY, COMPUTER SCIENCE AND ENGINEERING *(Apr '10 – Mar '11)*
- **Represented** CSE department on **Alumni Day** to facilitate interaction among alumni and students
- Coordinated with alumni to organize talks to showcase research opportunities
- Compiled and maintained database of 2000+ alumni of CSE department, IIT Bombay

RELEVANT COURSES
- **Core**: Numerical Analysis, Linear Optimization, Artificial Intelligence, Calculus
- **Management**: Accounting and Finance, Project Management, Operations Management

EXTRA CURRICULAR ACHIEVEMENTS

SPORTS
- Represented Hostel in Hockey General Championship and reached up to **quarter-final**
- Member of Hostel Kho-Kho team that secured **3rd** position in General Championship

MISCELLANEOUS
- **Led Institute's main Republic Day parade** in front of Director, IITB
- Attended 10 day NCC Camp and received B Certificate by 2 MAH Engg. Regiment
- Presented Seminar on the topic **Lost Language Decipherment**, describing statistical decipherment
- Avid **Android programming enthusiast** and created several apps using different frameworks