



Saurabh Bhola
Computer Science & Engineering
Indian Institute of Technology, Bombay
Specialization: Minor in Statistics

09005022
UG Second Year
Male
DOB: 26th August 199

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	7.86
Intermediate/+2	CBSE	Saint John's Sr. Sec. School	2009	92.00
Matriculation	CBSE	Saint John's Sr. Sec. School	2007	93.60

INTERNSHIPS

Encryption Domain Text Retrieval System

Summer 2011

Guide: Dr. Tzi-Cker-Chiueh

General Director, Cloud Computing Center for Mobile Applications,
Industrial Technology Research Institute, Taiwan

- Was involved in the **Design, Implementation and Evaluation** of Encryption Domain Text Retrieval System
- The project involved **Searching for a Keyword on the client side in the Compressed and Encrypted Text Document which is stored on the Server side**
- The steps in the project involved Compression of the text document, Encryption using Standard AES algorithm, Significant Word Set Generation (for faster search results), Most Relevant Word Set Generation (for Integrity Check of results), Decryption, Decompression, Indexing and making a Query Search.
- **Presented the idea** of achieving the goal, along with the implementation, **submitted a report** on the same, and received **Word of Appreciation** from the Director for the simple design and implementation of the desired system and the dedication to work
- A **patent application** based on the prototype developed during the intern has been filed and we are working on publishing a research paper on it

iDiscoveri Education

December 2010

- Worked as **Curriculum Developer** and developed innovative and creative Lesson Plans and Worksheets for students so that every child has an active participation in class
- Was awarded an **Additional Monetary Bonus** for contributing exceptionally in terms of quality and quantity of work done

PROJECTS

AcadsToday – Academic Social Network

Autumn 2011

Guide: Prof. Sudarshan

CSE Department, IIT Bombay

Built a Social Networking Platform in an academic institution that includes the following features:

- A user can create an authentic account by signing in (sign-in form includes a *captcha* too)
- A registered user can log in to access his/her account.
- The user can follow/unfollow a course, follow/unfollow an instructor, follow/unfollow other users
- A User can post a news which will be displayed on a public News forum with the username of the User and the date and time of posting.

- A User can tag other users and some words too with the news. This would further help in searching news on the basis of a tag. (Photo 6,7, 8 in the link)
- A User can comment on course/instructor and other user pages which will be displayed on the respective course/instructor page and can be deleted by the user too (Photo 15, 16 in the link). Also, this update in the course will appear on the course/instructor tab of the wall of those Users who are following that course/instructor (Photo 2 in the link).
- A user can rate the course and the instructor too. This would come out as an average rating by different users on the course/instructor page.
- A user can register/drop a course as well as a project (Photo 12, 13 in the link).
- A user can edit his/her profile and can upload his/her cropped image which is resized to sizes fixed by us (Photo 17 in the link)
- Most important of all, a user can upload a document/study material (in pdf, doc, jpg, ppt format). This document/study material will have its own page and would be displayed as a list of pages in the Uploads tab of a user. Other users can download this document/study material as well as rate them. This would be helpful to anyone who wants to have access to the popular and most studied documents (Photo 11, 18 in the link).
- Also, the document uploaded by User will have its title and location folder named as filled in by User during uploading the document. This would be helpful in searching for a specific document, say by author name or type of folder, say assignments.

Link to the stills of the interface of above project is:

<https://plus.google.com/u/0/photos/112813556173891552924/albums/5680886674163628081>

Implementation of Data Structures

Autumn 2010

Guide: Prof. Om P. Damani

CSE Department, IIT Bombay

Implemented **four** data structures, **AVL Tree, Splay Tree, Binomial Heap and Fibonacci Heap** independently which aimed at **reducing and comparing the time complexity** of basic methods of Insertion, Deletion, Searching, and Sorting if the data is stored in them

Rubik's Cube Solver

Spring 2010

Guide: Prof. Amitabh Sanyal

Head of Department, CSE, IIT Bombay

- Provided an interface for user to solve a randomly generated rubik's cube with the help of Graphical keys on screen by clicking on them.
- Implemented **Artificial Intelligence** to enable the computer to solve a randomly generated rubik's cube or a cube given by user.
- Also implemented the code for checking whether a particular arrangement of small colored cubies making a rubik's cube is correct or not.

Mini National UID Project

Autumn 2009

Guide: Prof. Deepak B. Phatak

CSE Department, IIT Bombay

- Image thinning : Reduced a gif image into 1-pixel width without breaking lines.
- Image enhancement : Reduced noise from image using Gaussian filter model, and implemented code for **Segmentation** and **Binarisation** of the image.
- Minutiae Detection : Find a pixel where a ridge ends or bifurcates.
- Minutiae Post-Processing : Removing false minutiae and storing minutiae in database

SCHOLASTIC ACHIEVEMENTS

- Awarded the **National Talent Search Examination Scholarship** after clearing all the three phases (2006-07)
- Awarded **Certificate of High Distinction in Mathematics** by the **University of New South Wales**, Sydney, for scoring 99 percentile in the International Assessment of Indian Schools exam conducted by Educational Assessment Australia and Macmillan, India (2005-06)
- Awarded the **IIT Bombay Heritage Fund Scholarship** for academic performance (2009-10)
- Awarded the **Certificate of Merit in Indian National Chemistry Olympiad** for being among the top 1% of the students appearing for the exam (2008-09)

COURSES UNDERTAKEN (pursuing a Minor in Statistics)

Core:

Implementation of Programming Languages (+Lab), Artificial Intelligence (+Lab), Computer Networks (+Lab), Embedded Systems Lab, Operating Systems (+Lab), Database and Information Systems (+Lab), Computer Architecture (+Lab), Logic Design (+Lab), Data Structures and Algorithms (+Lab), Design and Analysis of Algorithms, Automata Theory, Discrete Structures, Abstractions and Paradigms (+Lab), Computer Programming and Utilization (+Lab)

Mathematics, Statistics and Economics:

Regression Analysis, Statistical Inference, Introduction to Probability Theory, Data Analysis and Interpretation, Numerical Analysis, Differential Equations, Linear Algebra, Calculus, Economics, Applied Economics

Computer Proficiency:

Programming/Scripting Languages: C, C++, Java, Perl, Bash, LaTeX, VHDL, MIPS, Scheme
Web: HTML/CSS, Java Script, MySQL

POSITIONS OF RESPONSIBILITY

Department Alumni Secretary

(2011-12)

- Coordinate with **Student Alumni Relations Cell**, to contact the alumni for funding, Silver Jubilee Re-Union, Alumni Student Mentorship Programme, and Decennial Celebration.
- Responsible for compiling, maintaining and expanding the database of over 2000 alumni of the CSE Department, IIT Bombay

Served as **Head Boy** of our school in the academic year 2008-09

Served as **Captain** of one of the houses in our school in the year 2006-07

EXTRA-CURRICULAR ACTIVITIES

- Awarded the **Hostel Cultural Special Mention** in the year 2010-11, for outstanding contribution to the Inter-Hostel General Championships, in both solo and group events, which eventually lead our hostel to win the Overall Cultural GC
- Got the only position for my hostel in **Kavya-Sandhya GC**, for my self-written poem
- Was applauded as **Lead Actor** in a play, written and scripted by myself, in the **Annual Sophie Productions, 2010**
- Won the **Best All-Round Student Shield**, in both **Sub-Juniors** and **Juniors** category in my school in 2003-04 and 2005-06 respectively
- Was awarded the **Patron's Memorial**, the highest award given to a student in our school for both academic and extra-curricular achievements during an year, in 2005-06
- **Leisure time interests-** Fashion, and History