



Vipul Venkataraman
Computer Science & Engineering
Indian Institute of Technology Bombay
Specialization: None

110050084
UG Third Year (B.Tech.)
Male
DOB: 14-07-1993

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2014	8.54
Intermediate/+2	CBSE	Maharishi Vidya Mandir	2011	94.00
Matriculation	Matriculation	The Ashram MHSS	2009	91.60

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 63** and Tamil Nadu **State rank 1** in IIT-JEE 2011, among 5 lakh candidates
- Awarded the prestigious **KVPY** Scholarship (Kishore Vaigyanik Protsahan Yojana), instituted by the Department of Science and Technology, Government of India, with All India Rank 4, in 2011
- Declared successful at the **Indian National Mathematical Olympiad** INMO, 2011 conducted by the Homi Bhabha Centre for Science Education - **HBCSE**
- Secured 3^{rd} position in **Regional Mathematical Olympiad** (RMO Tamil Nadu region), 2011
- Certified as among top 1% (300 students) in India, to appear for the Indian National Chemistry Olympiad (**INChO**), 2011 and the Indian National Astronomy Olympiad (**INAO**), 2011
- Secured **All India Rank 1** in FIITJEE Talent Reward Exam, 2009
- Received Distinction in Australian National Chemistry Quiz 2009, conducted by the Royal Australian Chemical Institute
- Pursuing **Honors** in Computer Science with **Minors** in Mathematics

INTERNSHIPS

- Vapnik Chervonenkis Dimension of Art Gallery Problems** (Summer - 13)
Guide: Prof. Alexander Kroller (CSE Dept., Technische Universitat, Braunschweig)
 - Analyzed Simple Polygons studying arrangements of point sets within them and their straight-line visibility
 - Gathered evidence that the VC dimension of Art Gallery Problems in Simple Polygons may indeed be equal to six, the current *best lower bound*
- Block Sorting** (Winter - 12)
Guide: Prof. Meena Mahajan (CSE Dept., The Institute of Mathematical Sciences)
 - Explored new possibilities of improving the current *best upper bound* of $\frac{2n}{3}$ moves for Block Sorting
 - Developed alternative methods to achieve the same current upper bound of $\frac{2n}{3}$ moves

PROJECTS

- Depth Estimation from a Single Still Monocular Image** (Autumn - 12)
Guide: Prof. Varsha Apte (CSE Dept., IIT Bombay)
 - Applied **Supervised Learning** to predict the depth-map as a function of the image using monocular cues
 - Chose features that capture three types of local cues: texture variations, texture gradients and haze to predict the relative depth between different patches in the image
- Face Detection** (Spring - 12)
Guide: Prof. Amitabha Sanyal (CSE Dept., IIT Bombay)
 - Developed and Implemented a **Supervised** Machine Learning Algorithm to map pixel values to the probability of it being a face pixel
 - Implemented algorithms like Convolution, Thresholding, Continuous Component Analysis and Skeleton Matching to filter out probable face regions

- **Eight-point, Radix 2, Fast Fourier Transform** (Spring - 13)
Guide: Prof. Ashwin Gumaste (CSE Dept., IIT Bombay)
 - ★ Developed a combinatorial circuit in VHDL for an 8-point, radix 2, decimation-in-frequency Fast Fourier Transform using the **Cooley - Tukey algorithm**
 - ★ Implemented on a Xilinx Spartan-6 LX45 FPGA, with interactive user inputs and outputs utilizing on-board switches and LEDs
- **Statistical Inference of Census Data** (Spring - 12)
Guide: Prof. Milind Sohoni (CSE Dept., IIT Bombay)
 - ★ Statistically analyzed census data about the social-economic position of women in Mumbai sub-districts, using Scilab, a numerical computation language
 - ★ Formulated mathematical relations between data, performed parameter analysis and estimation, using statistical methods such as correlation coefficients and regression analysis
- **Gaming Interface** (Autumn - 11)
Guide: Prof. Deepak B. Phatak (Chair Professor, CSE Dept., IIT Bombay)
 - ★ Led a team of 7 to develop a graphic gaming interface for Snakes using C++ EZWindows graphics library

POSITIONS OF RESPONSIBILITY

- **Institute Secretary, International Relations**, Indian Institute of Technology Bombay 2013
Involved in:
 - ★ Interfacing with embassies and consulates of various countries to increase educational and cultural linkages between organizations in foreign countries and the Institute
 - ★ Promoting the Internationalization of IIT Bombay by setting up academic ventures in collaboration with global institutions and other Universities in India to enhance collaborative research
 - ★ Arranging and administering foreign language courses for students and staff of IIT Bombay
 - ★ Promoting exchange programs through Student Exchange Agreements with partner Institutions
- **Mentor**, Department Academic Mentorship Programme, CSE Dept., IIT Bombay 2013
 - ★ Responsible for mentoring sophomores focussing on their academics and general development
 - ★ Assisting students who are part of the Academic Rehabilitation Program at IIT Bombay in re-establishing themselves and taking complete course curriculum
- **Coordinator**, Corporate Relations, The Entrepreneurship Cell, IIT Bombay 2012-13
 - ★ Coordinated speaker sessions by recommending and inviting Entrepreneurs and Venture Capitalists
 - ★ Involved in procuring speakers for E - Summit, the annual flagship event of E-Cell, IIT Bombay
- **Coordinator**, Tamil Cultural Association, IIT Bombay
- **Coordinator**, Techfest 2013, IIT Bombay

EXTRACURRICULAR ACTIVITIES

- Attended a Conference on Bridging the gap between Tradition and Modernity organized by **Harvard University** in collaboration with the Entrepreneurship Cell, IIT Bombay
- Secured 4th (as a 13 year old) in the **Under - 18** boys and girls **District Level Chess Tournament** by the School of Chess, Kanchi District Chess Association
- Represented Chennai for **State Level** Cricket Tournaments conducted by the Tamil Nadu Cricket Association in the **Under - 13** and **Under - 15** categories
- Secured 5th place in the regional round of the **Hindu Young World Quiz**, 2007
- Member of the Winning Cricket team (Hostel 2) in the Freshmen General Championships
- Completed a yearlong course on Cricket offered by the National Sports Organization