Pratik Pramod Fegade | **120050004**
Computer Science & Engineering | **UG Third Year (B.Tech.)**
Indian Institute of Technology Bombay | **Male**
Specialization: Computer Science and Engineering | **DOB: 07/11/1994**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2015	9.41
Intermediate/+2	Maharashtra State Board	Ratanbai Walbai Junior College of Science, Mulund	2012	92.83
Matriculation	Maharashtra State Board	New English School, Kalwa	2010	96.91

Academic Achievements

- Secured **All India Rank 16** in **IIT JEE** amongst 480,000 students **2012**
- Secured **All India Rank 38** in **AIEEE** amongst 1,300,000 students **2012**
- Pursuing honours in Computer Science, and a minor degree in Electrical Engineering
- Among the top 1% students in India to attend the orientation-cum-selection camps for the **International Physics and Chemistry Olympiads** **May, 2012**
- Attended the Vijyoshi Camp at IISc. Bangalore **Nov, 2011**
- Attended the KVPY Summer Camp at IISER Pune **May, 2011**
- **KVPY** (Kishore Vaigyanik Protsahan Yojana) scholar **2011 - 2012**
- **NTSE** (National Talent Search Examination) scholar **2009**
- Stood **first** in **Maharashtra Talent Search Examination** **2009 and 2010**
- Gold medalist in **Dr. Homi Bhabha Bal Vaigyanik Examination** **2008**

Internships and Research Projects

TA Allocation System **Aug, 2104 - Present**

Guide: Prof. Kameswari Chebrolu, IIT Bombay

- An attempt to automate the process of allocating teaching assistants for courses based on course and instructor requirements
- Aim to complete the implementation by November, 2014

Concurrent Program Verification **May - Jul, 2014**

Guide: Prof. Thomas Henzinger, IST Austria

- Worked on concurrent program verification using the CEGAR approach
- Integrated the use of ordering predicates with the previously used framework for straight line programs
- Implemented a prototype to provide a proof of concept for the approach and proved Peterson's Algorithm to be safe

Stock Market Simulation **Dec, 2013**

Edelweiss Financial Services Ltd.
Worked on an algorithm that simulates the stock market given the desired price variation

Smart Suspension System **May - Jun, 2013**

Institute Technical Summer Project, Student's Technical Activities Body
Made an active suspension system for one wheel with a PID control mechanism

Course Projects Undertaken

Simulation of a Radial Engine **Mar - Apr, 2014**

Guide: Prof. Parag Chaudhari, IIT Bombay
Simulated a 5-cylinder radial engine in the physics simulator Box2D

Modelling a Monorail Control System **Mar - Apr, 2014**

Guide: Prof. Ashwin Gumaste, IIT Bombay
Implemented a simple monorail controller in VHDL

Proposal for Multi-Coloured LEDs **Mar - Apr, 2014**

Guide: Prof. Dipankar Saha, IIT Bombay

- A proposal was given for a multi-coloured LED using multiple wells and quantum dots
- The fabrication of the LEDs was considered and suitable materials suggested

Hardware Simulation of Pong **Oct - Nov, 2013**

Guide: Prof. Dipankar Saha, IIT Bombay
Simulated the game of Pong at the gate level using the software Logisim

Simulation of a Microorganism Culture **Mar - Apr, 2013**

Guide: Prof. Amitabha Sanyal, IIT Bombay
Modelled a culture of sexually reproducing microorganisms demonstrating Mendel's Laws of Genetics through random genetic mutations leading to new species

Simulation of an Aquarium **Oct - Nov, 2012**

Guide: Prof. Abhiram Ranade, IIT Bombay
Developed a fish aquarium simulation using the graphics library Simplecpp developed by Prof. Ranade

Interests

Software Verification, Algorithms, Networks and Network Security, Databases, Psychology

Computer Skills

- Languages: C++, Java, OCaml, Bash, Python, PLT-Scheme, MIPS Assembly, VHDL, SQL, HTML/CSS
- Basic knowledge of software packages Matlab, Scilab, LaTeX and Coq
- Operating Systems: Unix/Linux, OS X

Extra Courses

Electrical Engineering
Digital Logic, Probability and Random Processes, Special Semiconductor Devices, Signals and Systems*

Computer Science and Engineering
Introduction to Machine Learning, Foundations of Parallel Computations*

* Will be completed by Nov 2014

Positions of Responsibility

Department Academic Mentor **May, 2014 - Present**

The position involves mentoring junior students in academic matters

Extra Curricular Activities

- Selected for and attended the ITCSC-INC Winter School at CUHK, Hong Kong along with 64 students from all over Asia **Jan, 2014**
- Made a line follower using the Arduino microcontroller **2012**
- Completed online courses on algorithms, social psychology and astrophysics on the websites Cousera and edX

Website

www.cse.iitb.ac.in/~pratikf