Tarun Agrawal **10305057**
Computer Science & Engineering **M.Tech.**
Indian Institute of Technology, Bombay **Male**
Specialization: Computer Science and Engineering **DOB: 28-May-1988**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2011	8.15
Undergraduate Specialization: Computer Science and Engineering				
Graduation	Rajiv Gandhi Technical University	Acropolis Institue of Technology	2010	76.53
Intermediate/+2	M.P. Board	Shri Agrasen Vidyalaya	2006	71.30
Matriculation	M.P. Board	Shri Agrasen Vidyalaya	2004	78.40

Major Projects and Seminars

- **M.Tech Project : Determination of Safe Region in Dynamically Updatable Programs**
  (Master's Thesis, guided by Prof. Dhamdhere Madhav Dhananjay, Autumn 2011)
  - Main goal –To determine safe region for update in dynamically updatable programs
  - Major challenge –To determine safe region taking into account the optimization and de-optimization that would happen in new version of code.
  - Designed a solution approach based on data flow dependencies and dynamic trace of program

- **B.Tech Project : Phishing Prevention**
  (Guided by Prof. Shubham Joshi, Spring 2010)
  - Main goal –To propose a scheme that will help fighting against phishing
  - Major challenge –It is difficult to stop phisher from accessing password but it is rather easy to detect the fact that password has been entered at an unfamiliar site
  - Designed a solution which involves browser that reports password deliverance at unfamiliar sites, and a server that accumulates these reports and detects an attack

- **Research and Development Project : Malware Deobfuscation**
  (Guided by Prof. Bernard L. Menezes, Autumn 2011)
  - Main goal –To propose a scheme to deobfuscate malwares
  - Major challenge –To deobfuscate code reordering and junk insertion obfuscation statically
  - Designed a solution approach based on compiler optimization techniques of constant propagation and dead code elimination

- **M.Tech Seminar : Malware Detection**
  (Guided by Prof. Bernard L. Menezes, Spring 2011)
  - Performed a literature survey on the malware detection techniques
  - Compared some of the recent techniques for packed malwares

Major Course Projects

- **Constant Propagation using Graph Restructuring** *(Guided by Prof. Dhamdhere M. Dhananjay , Spring 2011)*
  - Performed data-flow analysis to determine those control-flow merges which cause the loss in constant propagation precision
  - Restructured the control-flow graph of the program such that performing constant propagation on the resulting restructured graph gives more precise results

- **Implementation of Distributed Hash Table(DHT)** *(Guided by Prof. Bhaskaran Raman, Autumn 2010)*
  - Developed a decentralized distributed system that provided a lookup service similar to a hash table
  - The (key, value) pairs were stored in a DHT, and any participating node can efficiently retrieve the value associated with a given key

- **Packed Malware Detection** *(Guided by Prof. Bernard L. Menezes, Spring 2011)*
  - Demonstrated some techniques to detect packed malware without knowing the packing algorithm

- **Demonstration of Content Sniffing Attack on HotCRP** *(Guided by Prof. Bernard L. Menezes, Autumn 2010)*
  - Exploited Internet Explorer 7's content sniffing algorithms vulnerability of treating non-HTML content as HTML and launched an XSS attack
  - Also, implemented server side defense that filters out the malicious file uploads
- **Online Feedback System with Secure Multi Party Computation**
  (Guided by Prof. G. Siva Kumar, Autumn 2010)
  - Developed a website for online feedback of faculties from students
  - Anonymized the feedback given by the students even to the administrator of feedback system

Other Projects

- **File Splitter** *(Autumn 2009)*
- **Cipher Chat Server** *(Spring 2009)*
- **Dx Ball Game** *(Spring 2009)*

Technical Skills

- **Programming Languages**: C, C++, Java
- **Scripting Languages**: Python, Bash Scripting
- **Tools**: Latex, LLVM, Netbeans, GDB

M.Tech Courses

Advanced Compiler, Program Analysis, Program Derivation, Network Security-I, Advanced Computer Networks, Network Security-II, Advanced Computer Architecture, Philosophy of Education

Positions of Responsibility

- **Teaching Assistantship**
  - **Network Security-I** (under Prof. Bernard Menezes, In a team of 5, Autumn 2011)
    Demonstrated stack vulnerability in linux by performing buffer-overflow attack on ubuntu-10.10
  - **Computer Programming and Utilization** (under Prof. Deepak B Phatak, Autumn 2010, Spring 2011)
    Worked in a relatively large team structure of 9 teams and 6 sub teams each team containing 5 people
- **Captain** of school football team
  - Lead the team of Shri Agrasen Vidyalaya in its first major district level competition
- **Organizer**, Armageddon-2009
  - Organized code debugging competition as a part of Armageddon-2009, a national level technical fest by Acropolis Institute of Technology, Indore
- **Co-ordinator**, Convergence-2011
  - Co-ordinated for publicity campaign as a part of Convergence-2011, a national level technical fest by Department of CSE, IIT Bombay

Achievements and Extra-Curricular Activities

- Secured **All India Rank 100** in GATE (Graduate Aptitude Test in Engineering) - 2010 out of 107086 students
- Secured **3rd** position in Project Competition organized by IBM ACE at Armageddon-2009, a national level technical fest by Acropolis Institute of Technology
- Presented a paper on **Phishing Prevention** and secured a **2nd** position in national inter college paper presentation competition at Armageddon-2008, a national level tech fest by Acropolis Institute of Technology, Indore
- Member of **winning** football team in Ardour'08 an annual sports meet at Acropolis Institute of Technology, Indore

Hobbies and Interest

- Playing and watching football
- Listening to music
- Playing Bansuri