

GAURAV KUMAR MEHTA

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OBJECTIVE: Seeking a full-time Software Development position in the field of Computer Science.

ACADEMICS:

- **M.S. Computer Science** (G.P.A. – 3.85/4.0, Dec 2009)
University of California, Santa Barbara, CA, USA
Course Work: Advanced Database Systems, Java Centric Cluster and Concurrent Computing, Scalable Internet Services, Implementation of Modern Programming Languages, Data and Knowledge Bases, Information Theory, Data Mining Computational Geometry, Advanced Topics in Security.
- **B.Tech. Information & Communication Technology** (C.P.I.¹ – 8.61/10.0, May 2008)
Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT), Gujarat, India

SOFTWARE SKILLS

- **Operating Systems:** Windows, Linux(Ubuntu, Fedora, RedHat)
- **High-level languages:** C, Java, C++, Python, Ruby
- **Web Frameworks:** Ruby on Rails
- **Software Engineering Tools:** Rational Rose Suite, Git, Pivotal Tracker, Bazaar, Launchpad
- **Others:** Rubymine, Eclipse, JCreator, Komodo, MySQL, IBM DB2, SQL Server, MOSS 2007, MS InfoPath 2007, Valgrind, PSpice, LaTeX, Apache Ant

PROFESSIONAL EXPERIENCE:

- **Amgen Inc.** Thousand Oaks, CA
Graduate Student Intern, Information Systems (Summer 2009)
I worked on MOSS 2007 and InfoPath 2007 to build collaboration tools for “Identity and Access Management” Team at Amgen and automated its decision making process using Nintex workflows.
- **University of California** Santa Barbara, CA
Teaching Assistant (Fall’08, Spring’09)
I assisted with the undergraduate courses “Introduction to C, C++ and Unix” and “Data Structures and Algorithms” in Spring’09 and Fall’08 respectively and the graduate course “Hardware Security and Cryptographic Engineering” in Fall’08.
- **Dhirubhai Ambani Institute of Information & Communication Technology** Gujarat, India
Teaching Assistant (Aug’07 – Nov.’07)
I assisted with the undergraduate course “Computer Organization and Programming” during my senior year of college at DA-IICT.

ACADEMIC EXPERIENCE:

- **Cloud Computing(September 2009 –Present)**
Appscale: I am currently working on the refactoring of Appscale, an open-source research framework for the execution of Google AppEngine Applications, to make it easier to add new data-stores to it by using dynamic loading of datastore classes and convention over configuration.
- **Java-Centric Cluster Computing and Concurrent Programming:**
Performance based Scheduler with work stealing: Implemented a Java based compute farm cluster (using Java RMI) and a scheduling scheme based on work stealing concept, to achieve lower job execution times for the tasks given. Traveling Salesman Problem and NQueens Problem were used to demonstrate the efficiency of it.
- **Data Mining**
KDD Cup 2009: Participated in KDD Cup 2009, a data mining contest, and used data classification techniques such as Decision Trees, to predict labels for three CRM applications, namely Churn, Appetency and Upselling, on the given Orange Telecom dataset.
- **Databases and Transaction Concept** *Transaction Manager:* Implemented Strong Strict Two Phase Locking (SS2PL) and Optimistic Concurrency Control protocols on Google AppEngine (in Python) and studied the comparison between the transaction management in these environments based on different sets of workloads.

¹ CPI: Cumulative Performance Index

- **Social Network Application on Amazon Cloud**

Digitally Yours: Designed and developed a social networking app on Ruby on Rails framework that would enable users to become friends with each other and serve as a single destination for sharing all their media (both physical and ethereal). The app was deployed on Amazon EC2 and tested for scalability.

- **Computer Security:**

Reflector: Developed an application in C using libpcap and libnet libraries that would protect a given host in a network at both the Ethernet and IP levels and in turn exploit the attacker's node. Packets were sniffed using libpcap and the spoofing of the ARP/IP packets was done using libnet.

Stealthy: Developed an application in Python(Scapy) that would bypass the SNORT IDS(intrusion detection system) while doing TCP/UDP Port scan.

- **Mobile Computing**

Krishi Sandesh: Agro Produce Marketing System: Developed a framework in Java, for making online agro-produce marketing and negotiation between farmers and the merchants possible by the means of mobile messaging service with multilingual support, using Sun Java Wireless Toolkit and tested it with Ozeki SMS server for proof of concept.

- **Network Simulation**

Simulation of Variations of M/G/1 queue: Did Event based modeling and stochastic simulation of variations of M/G/1 queue with vacations, only one vacation after idle and with exceptional first service using the SSJ package in Java.

- **Distributed Computing**

Chat Application: Developed a GUI chat application in Java using Socket Programming.

- **Software Engineering**

OFEPS - Online Forum for Examination, Polls and Surveys: Developed a secure web portal using Java Servlets, JSP and AJAX, following the Software Engineering methodologies at each step of development.

- **Operating Systems**

Command Line Interpreter: Implemented a Command Line Interpreter, in C, which simulated certain functionalities of a basic Unix Shell.

- **Database Management**

Student Placement Database Management System: Designed the database for the College Placement site by making the ER model, mapping it to relational schema and then applying Normalization on it.

- **Hardware Engineering**

Hardware Random Number Generator: Custom designed and implemented our own amplifier with a large GBW product for the amplification of noise and used the Atmega32 microcontroller to function as an ADC and also for the serial transmission of the data to the computer.

RESEARCH:

- **Review of applications of Information Theoretic metrics in Anomaly Detection:** Surveyed the usage of information theory in the field of anomaly detection.
- **A comparative study of Hardware Description Languages and Software Programming Languages:** Surveyed the trend in HDL's and studied the contrast between HDL's and Software Programming Languages.
- **Analysis of Attrition Attacks on P2P Networks:** Studied and analyzed attrition attacks on P2P networks. LOCKSS, a P2P digital preservation system was used to demonstrate these attacks and evaluate some of the proposed defenses.

PERSONAL ACHIEVEMENTS / HONORS

- Member of **DA-IICT Annual Fest Organizing Committee** for the year 2007.
- Event Coordinator of a cultural event "RAMPAGE", the fashion parade, in our annual techno-cultural college festival Synapse'07.
- Part of the Sponsorship and Public Relations team in Synapse'07.
- Organized **Hub** - a 24*7 gaming centre during Synapse'05.
- Winner of the coveted **STUDENT OF THE YEAR** award in the school.

DECLARATION: I, Gaurav Kumar Mehta, hereby declare that the above information is correct to the best of my knowledge.