HIMANI RAJORA
MATHEMATICS AND COMPUTING
IIT DELHI

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ACADEMIC DETAILS:

Year	Degree / Board	Institute / School	CGPA / %
2007 - till date	5 yr. Integrated M.Tech. in Mathematics and Computing	IIT Delhi	pursuing
2007	12th Standard, CBSE Board	Kendriya Vidyalaya	90.2%
2005	10th Standard, CBSE Board	C.R.M. Public School	87%

QUALIFYING EXAMS, SCHOLASTIC ACHIEVEMENTS and EXTRA CURRICULARS:

- Secured **1st rank in Regional Chemistry Olympiad** and appeared in **Indian National Chemistry Olympiad** with ultimate aim to select students for **International Chemistry Olympiad (2007)**
- Secured **1st rank in Regional Physics Olympiad** and appeared in **Indian National Physics Olympiad**
- Maintained an appreciable academic record in school with an average of **94.2%** marks, securing 1st position in almost all classes *(from VII through XII)*
- Awarded scholarship by Central Board of Secondary Education, India for being in the list of top students in Std 12th.
- Director of **INSTITUTE DANCE PRODUCTION '09**
- Secured **First** and **Second** positions in **Group Dance** Performance in inter university competition (**Rendezvous'10** and **Rendezvous'09** respectively, cultural festival of IIT Delhi)

INTERNSHIPS and PROJECTS:

- **Institute for Development and Research in Banking Technology, Hyderabad ,India (May,2010-July,2010)**:
  - Designed and implemented technique to implement whitelisting and thwarting phishing attaks over the site
  - Used **Levenshtein Edit Distance Algorithm** while simultaneously evaluating **antiphishing toolbars** and **SpoofGuard Architecture**

- **Content Management System (CMS)** (Sept, 2009 - Nov, 2009) :
  - Designed and implemented a complete CMS from scratch
  - Following an organizational template, implemented user domains and rights, content and user search and tagging and rating content
  - Used WAMP server, PHP, Javascript and HTML.

- **Client/Server Chat System***:* Implemented a *Distributed Program*, using *TCP* and *UDP*. The chat system consisted of two distributed components: chat server and chat client (multi clients), which were run on different hosts in the network. The program used *client-server socket-level programming.* The coding was done in Java

- **3-D Obstacle Avoidance Game**(Sept, 2009 - Nov, 2009) :

  Created a 3D obstacle avoidance game using OpenGL, C++ and Visual Studio as the IDE. The game incorporates different kinds of obstacles (of different difficulty levels) and the user has to manoeuvre his/her craft to prevent the craft from colliding with any of the obstacles

- **System Design Laboratory (Sept, 2009 - Nov, 2009)**: Studied and implemented (MATLAB) the following:
  - **GARCH Modeling:** Studied **Financial Time Series** and various linear and non- linear forecasting methods. Predicted the future series of crude oil prices using GARCH toolbox.

- Implemented and evaluated European Call Option value using Black Scholes model
- Tested Lax Wendroff and Lax Friedrich techniques for solving hyperbolic partial differential equations

- **Web Crawler and Search Engine** (Jan, 2009 - Apr, 2009) :
  - Implemented a web crawler, downloaded a database of webpages from a seed of few pages
  - Clustered the web pages using MATLAB toolbox
  - Built a search engine based on hierarchically clustered pages.
- **Process Scheduling over a network***:* Implemented the *Round Robin Scheduling* algorithm in JAVA. It was then used for efficient data packet transfer over a network by providing isolation and reducing delay and errors resulting from congestion

- **Network Anomaly Classification:** Captured the characteristics of the anomalies identifying discriminating features and built model that classified these anomalies spanning over a vast range of events.

TECHNICAL SKILLS:

- **Programming Languages:** C, C++, Java, PHP, JavaScript, HTML
- **Packages, Utilities, Libraries: :** OpenGL, MATLAB, Netbeans
- **Platforms:** Windows, Linux

COURSES:

Computer Science

- Data Structures
- Computer Architecture
- Principles Of Computer Graphics
- Analysis & Design Of Algorithms
- Digital Image Processing
- Graphic Science
- Software Engineering
- Database Management Systems
- Operating Systems

Mathematics

- Probability & Stochastic Processes
- Numerical Methods and Computation
- Differential Equations
- Linear Algebra
- Multivariable Calculus And Matrix Theory
- Real & Complex Analysis
- Discrete Mathematical Structures
- Topology And Functional Analysis
- Cryptology