



**Arup Kumar Pal**  
**Computer Science & Engineering**  
**Indian Institute of Technology, Bombay**

**09005024**  
**UG Third Year (B.Tech.)**  
**Male**  
**DOB: 31-03-1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	8.71
Intermediate/+2	NIOS	NIOS	2009	80.00
Matriculation	CBSE	Ramakrishna Mission Vidyalaya	2007	89.60

### ***Scholastic Achievements:***

- Secured All India Rank **97** in IIT-Joint Entrance Examination 2009 out of 400,000 participants.
- **Gold** Medal in Indian National Chemistry Olympiad (INChO) 2009. Selected amongst the top **35** students in India to attend the Orientation cum Selection Camp for International Chemistry Olympiad 2009 at the Tata Institute of Fundamental Research (TIFR), Mumbai.
- Secured All India Rank **179** in AIEEE 2009 out of 1,000,000 students who took the test.
- All India Rank 69 in National Level Science Talent Search Examination (NLSTSE)-2009, and AIR 74 in NLSTSE-2004.

### ***Academic Projects:***

#### ***Rendezvous Problem:***

*(November 2010)*

*Guide: Prof. Om Prakash Damani (CSE, IIT Bombay)*

- **Overview of the problem:** Given a network and two strangers situated on it such that they don't communicate between themselves what should be their strategy so that they are able to meet as quickly as possible.
- Developed an algorithm for the same where the stranger took decisions to wait at a junction or to move along one of the possible paths. His choice was based on static probabilities calculated from the network properties and dynamic probabilities that were dependent on his previous decisions.
- A Graphical Interface to create the road network was made and the movement of the strangers on it according to the algorithm was simulated.

#### ***Chess:***

*Guide: Prof. Amitabh Sanyal (HOD, CSE, IIT Bombay).*

*(March 2010)*

- Coded Human vs. AI (Artificial Intelligence) CHESS game with real time performance in PLT Scheme.
- The AI move was decided by selecting the most favourable future out of all the possible ones maintained in an efficient Priority Queue.
- Implemented Graphical User Interface for the same to provide the gaming experience.

#### ***Fingerprint Detection Software:***

*Guide: Prof. Deepak B. Phatak (CSE, IIT Bombay)*

*(November 2009)*

- Developed the application part of the software related to collection of data, cross-checking for fakes or duplicates and maintenance of the database storing each and every usage of the fingerprint detection machine

### ***Internships:***

#### ***Server Web and Cloud Programmer:***

*Ranimol Corporation (Boston, MA, USA)*

*(May-July 2011)*

- Developed the back-end of a website which aims to simplify our financial dealings by imbibing the smoothness of information exchange that is prevalent over today's social networks.  
The idea of an umbrella organisation providing a common platform for each individual's money management may seem surreal but has the potency to revolutionize the cumbersome way we deal with money.
- The website development included the basics of server hosting (mobile server using IP redirection), browser scripting (in php) and handling databases (MySQL). The front end was developed using HTML, CSS and Ajax.

## ***Relevant Skills:***

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### ***Core Courses Completed:***

Programming Techniques	Operating Systems
Abstractions and Paradigms in Programming	Computer Architecture
Data Structures and Algorithms	Database Systems
Discrete Structures	Computer Networks
Design and Analysis of Algorithms	Artificial Intelligence
Automata Theory, Languages and Logic	Implementation of Programming Languages
Logic Design	

### ***Non-Core Courses Completed:***

Calculus	Linear Algebra
Differential Equations	Numerical Analysis

### ***Languages familiar with:***

- C, C++, Java, PLT Scheme, Python, Perl, bash scripting, awk.
- JavaScript, php, HTML, CSS, Ajax.

## ***Areas of Interest:***

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- Pursuing a Minor in **Statistics**. Following courses have been completed.

Introduction to Probability Theory	Stochastic Processes
Data Analysis and Interpretation	Statistical Inference

- The world of **football** especially from the eyes of a manager. Understanding opponent behaviour and strategizing accordingly is something I love a lot.
- Financial **Modelling**.
- Blogging.

## ***Extra-curricular Activities:***

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- Manager of Institute Football League team that won the Cup of 2011.
- Winner of Institute Football League 2010 that comprised of 8 teams with over 200 players.
- Winner of Inter Hostel Sophomore Football General Championship-2011.
- Awarded Certificate of Merit in All-India Camlin Colour Contest 2003 for Best Entry in a group.

## ***Position of Responsibility:***

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- *Coordinator of Media dept. of Techfest -2011.* Was point person for TV channels like CNN and leading newspapers of the country. Responsible for media publications and press releases for the fest.
- *Accounts Secretary of CSEA* (Computer Science and Engineering Association), the student body of our department. Responsible for maintaining CSEA accounts and handling money related matters for all student events.

