



**Joy Parthapratim Khan**  
**Electrical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Communication & Signal Processing**

**09D07012**  
**UG Third Year(Dual Degree )**  
**Male**  
**DOB: 30/09/1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	7.88
Intermediate/+2	Smt. Sulochanadevi Singhanian School	Smt. Sulochanadevi Singhanian School	2009	92.30
Matriculation	Smt. Sulochanadevi Singhanian School	Smt. Sulochanadevi Singhanian School	2007	94.30

## INDUSTRIAL TRAINING

- Successfully completed a Summer Internship Programme (**2011**) with **Siemens**, of a duration of **8 weeks** under the “**Industry Automation**” department which involved undertaking **2 projects** :
  - **Project I** : Designed an **autonomous system** to help generate a “rise and rest” temperature profile in a reactor, used by **Pharmaceutical** and **Food and Beverage** companies, by means of simulation.
  - **Project II** : Designed an **autonomous Energy Management System** to help **reduce power usage** of a firm, with a user-defined “device preference list”, through simulation (Software – SIMATIC-PCS7).
- Successfully completed a short Summer Internship Programme with **BSNL**, of a duration of 15 days aiming “**Familiarisation of Electro-Magnetic Equipments**”, (**2010**).

## PROJECTS

- Designed and constructed** a **less expensive** and more **easily implementable** version of the recreational game, **Laser Tag** under the “**Electronics Club Summer Projects**” scheme by the Electronics Club, IIT Bombay, (**2010**).
- Designed and implemented** a game, “**Shoot the Ducks**”, similar to the Nintendo game Duck Hunt by utilizing **digital electronics** components (555 timer, shift registers, ROMs, Counters, Multiplexers, LED display) to create the circuit along with a **software simulation** using **Verilog** programming, in the course project of Digital Circuits lab under Prof. Udayan Ganguly, IIT Bombay, (**2011**).
- Constructed** an **Inductor** of certain **given specifications** like **inductance**, **current rating** and a **specific** (double E) **core**, in the course project of Machines lab under Prof. A.M. Kulkarni, IIT Bombay, (**2011**).
- Worked on creating a **Software** for “The **applications and utilization** of the **Unique Identification Database** project” (**fingerprint matching**), for IIT Students & Staff in the Course Project of Computer Programming & Utilization under Prof. Deepak Phatak, IIT Bombay, (**2009**).
- Created** a **software** consisting of three games named “**Tri-Arcade-Alpha**” aimed to create the **structure** of **three different traditional games** in the **Computer Applications** Course Project under Prof. (Mrs.) Vaishali Patil, in Smt. Sulochanadevi Singhanian School, (**2006-2007**).

## TECHNICAL SKILLS

- Software Proficiency** :
  - Verilog, Matlab, LT SPICE, Scilab, Eagle PCB Layout Designer, SIMATIC (PCS 7).
  - Oracle, MS Access.
  - Adobe Photoshop, Flash, Movie maker, Audacity, Microsoft Office.
- Programming Languages** : C, C++, Java (IDE – BlueJ), Visual Basic, Javascript.
- Operating Systems** : Windows, Linux, Mac OS.

## SCHOLASTIC ACHIEVEMENTS

- Secured an All India Rank of **94** (Category) out of over 3.85 lakh aspirants in the IIT JEE, (2009).
- Secured an AIR of **71**(Category), out of over 10 lakh aspirants in the AIEEE, (2009).
- Secured **100/100** in Computer Applications in the Std. X<sup>th</sup> ICSE Board Examinations, (2007).
- Secured an AIR of **4482** and a city rank of **35** in the 7<sup>th</sup> National Cyber Olympiad, (2007).
- **Honour society** (Group of **academically proficient** students) member from std. **VI<sup>th</sup> – XII<sup>th</sup>** in Smt. Sulochanadevi Singhanian School, (2002-2009).

## COURSES UNDERTAKEN

### Core Courses

- Introduction to Electrical Engineering
- Introduction to Electronics
- Network Theory
- Electronic Devices & Circuits
- Analog Circuits
- Digital Systems
- Electrical Machines and Power Electronics
- Signals and Systems
- Communication Systems
- Microprocessors
- Electromagnetic Waves
- Probability and Random Processes
- Control Systems
- Digital Signal Processing
- Digital Communications
- Power Systems

### Labs

- Electronics Devices and Circuits
- Analog Circuits
- Digital Circuits
- Electrical Machines and Power Electronics
- Communications
- Microprocessors
- Control Systems
- Digital Signal Processing
- Engineering Drawing
- Experimentation and Measurements
- Mechanical Workshop

### Non-Core Courses

- Calculus
- Linear Algebra
- Ordinary Differential Equations
- Complex Analysis
- Electricity & Magnetism
- C++ Programming
- Data Analysis & Interpretation
- Economics
- Environmental Science & Engineering
- Logic Design
- Psychology
- Project Management and Project Analysis

## EXTRA-CURRICULAR ACTIVITIES

- Secured the **1<sup>st</sup>** place in **Robocon** in the Intra IIT Bombay Competition by **constructing** a manually controlled **robot** designed to pick and place blocks different levels to **construct** a **pyramid**, (2009).
- Participated in **Techfest** in the competition Loop Rush and **constructed** a robot which can follow curved lines using PID control (**Curved line follower**), (2011).
- Participated in **Techfest** in the competition Solar Splash and **constructed** a **mini solar powered boat** with certain power retaining capabilities without using Batteries, (2010).
- Constructed a **remote controlled RF** toy car for the F1 competition organised for 1<sup>st</sup> year UGs, IIT Bombay, (2009).
- **Trained** in **Indian Biodiversity** and **Ecological dynamics** under The Trailblazers organisation, (2006).
- Certified for swimming a distance of **7.5 kms** in **6 Hours** in **The Swimmathon**, IIT Bombay, (2010).
- Undertaken a **Training programme** in **Scouting** and participated in scouting camps, (2002-2005).

## POSITIONS OF RESPONSIBILITY

- **Debating Secretary** of Hostel 7, (2010-2011).
- **Department Alumni Secretary** of the **Electrical Engineering Department**, (2011-2012).
- **Organiser** of the Hospitality and PR team, **Mood Indigo** (2009), the Cultural Festival of IIT Bombay.
- **Co-ordinator** of the Hospitality, PR and Food and Beverages Management team, **Mood Indigo** (2010).
- **Batch Co-ordinator** and **Team Leader** of the “Applications” batch in the Mini-UID (Unique Identification Database) project, under Prof. Deepak Phatak, IIT Bombay, (2009).