Sameer Singh

B-14 IARI
Pusa Campus
New Delhi - 110 012
INDIA

☎ (91-011) 25739783, 25732974
✉ sameeer_s@yahoo.com
www.sameersingh.2ya.com

Objective

To do original research work in the field of Robotics, and to pursue a Doctoral degree in the same field thereafter.

Research Interests

Artificial Intelligence, Multiple Robot Systems, Humanoid Robots

Education

SNo	Name	University	Location	Degree	Major	Start	End
1.	Netaji Subhas Institute of Technology	Delhi University	New Delhi INDIA	B.Eng. **(65%)**	Electronics and Communications	August 2000	June 2004

Relevant Courses Studied

- Mathematics (for 3 semesters)
- Circuits and Systems
- Electronics I and II
- Linear Integrated Circuits
- Data Structures
- Digital Signal Processing I & II
- VLSI Principles & Design
- Control Systems
- Computer System Organization
- Digital Circuits and Systems I & II
- Mathematical Computing
- Microprocessors I & II
- Antenna Theory

Academic Experience

- **Projects**
  - working on a **Flute Playing Robot** which is interfaced to the PC for control
  - designed a **Robotic Hand with Flexible Gripper for Prosthesis**, in the Central Electronic Engineering Research Institute (CEERI), New Delhi
  - designed and fabricated a **Polar Coordinates Robotic Arm** with two degrees of freedom for automatic test tube filling
  - working on a **Prosthetic Robotic Leg**, as part of the final year project, in the **Defence Research and Development Organisation** (DRDO), Govt. of India
  - worked in the **Machine Vision** and the **Inter Vehicular Communication** divisions of the **DLC Project (Driver less Car)** in NSIT in 2002
  - designed and fabricated an ADC with seven segment displays using the AVR microcontroller
  - working on a **mobile robot unit for greenhouses** under Mr. A. K. Dogra, Dept. of Agricultural Engineering, Indian Agricultural Research Institute
  - worked on **Evolution models and their simulations,** as a part of learning multi-agent based simulations, under Prof. R. Ramaswamy, School of Physical Sciences, Jawaharlal Nehru University
  - Designed and developed Image Processing Software, which incorporated fractals, called ***Fractory***, in 1999-2000

- **Training**
  - attended summer training in the Central Electronic Engineering Research Institute, New Delhi Branch, and worked on **the Design of a Robotic Hand with Flexible Grip for Prosthesis** in July-August 2003
  - attended Winter Training in **PRAVAK Cybernetics India Ltd.**, New Delhi, and worked on **Using the Mitsubishi Robotic Arm for Writing** in Dec 2003.
  - attended Winter Training on "**Embedded Systems using the AVR RISC Microcontroller**" in Dec 2002
  - attended a training course on "**Embedded Systems & the 8085 Evaluation Board**" in Oct 2001
  - attended Winter Training on "**PSPICE and PCB Design & Fabrication**" in Dec 2001
  - attending a series of introductory courses on **Artificial Intelligence** by a faculty member
  - Active member of the **IEEE** student chapter, NSIT, in the year 2003-2004
  - attended a course in **JAVA** in NIIT, during July, 2000

- **Awards & Certifications**
  - **First Prize** in **On the Spot Programming Contest (Seniors)** during **Innovision 2002**, the technical festival of NSIT and IEEE
  - **Second Prize** in **Technical Paper Presentation** (Instrumentation and Control) during **Innovision 2002**, the technical festival of NSIT and IEEE
  - **Selected for Finals** in **Technical Paper Presentation** (Instrumentation and Control) during **Innovision 2003**, the technical festival of NSIT and IEEE
  - **First prize** in *Chunauti*, a weekly **Online Programming Contest**, during NSIT's technical festival, **DITECH 2002**
  - *Fractory* won the **First prize** in Original Software Design during Modern school (Barakhamba Road), computer symposium **Access 99**
  - *Fractory* won **First Prize** in *Kriti*, **Original Software Design**, during NSIT's technical festival, **DITECH 2001**
  - *Fractory* won **First Prize** in **Original Software Design**, during DCE & IEEE's technical festival, **TROIKA** in 2001

Papers

- presented a seminar on **"Multiple Robot Systems: Task Distribution, Coordination and Localization"** in March 2004
- wrote a paper titled "**An Innovative Design of a Flexible Robotic Gripper for use in Prosthesis"** in October 2003
- wrote an original technical paper titled "**Finding the shortest path for a mobile robot in an unmapped maze from minimum runs**" in January 2003; This paper was selected for presentation during the **International Conference on CAD, CAM, Robotics and Autonomous Factories**, New Delhi
- wrote an original technical paper titled "**Reflex System of a Robot for Collision Avoidance**" in Oct 2002; This paper won the **second prize** in paper presentation during the technical festival of IEEE and NSIT, Innovision 2002
- wrote a technical report on **3D Gaming Engines; and How to Program Them** in 2002

Computer Languages & Packages

- C / C++
- Assembly
- Java
- Visual Basic
- Visual C++
- SQL / dBase
- Visual Prolog
- Adobe Photoshop
- 3D Studio Max
- MATLAB
- Macromedia Dreamweaver
- OrCAD with PSPICE
- VHDL

Extra curricular

- **Technical Organizing Experience**
  - Organised **Robotica**, an inter-college robotics competition during **Innovision 2003**, the technical festival of IEEE and NSIT
  - Organised the **Original Game Design Contest** during **Innovision 2003**, the technical fest of NSIT and IEEE
  - Designed and maintained the **web site** for **Innovision 2002**, the technical festival of NSIT and IEEE
  - Organised and Judged *Byte the Bullet*, the **Online Programming Contest** during **Innovision 2002**, the technical festival of NSIT and IEEE
  - Organised *GameworX*, The **Original Game Design Contest** during **Innovision 2002**, the technical festival of NSIT and IEEE
  - Judged Original Software Competition and Programming events during **Modem 2000**, the inter school Computer Symposium of Modern School (Vasant Vihar)
  - Judged Programming Events in **Abhikalan 2000**, the inter school Computer symposium of Sardar Patel Vidyalaya
  - Organised **Abhikalan 98**, the inter school computer symposium for Sardar Patel Vidyalaya
  - Organised Gaming Competition (Quake 3 and NFS 2) over a LAN during **Resonance 2001**, the cultural festival of NSIT
  - Organised **Avalanche**, the national amateur rock band competition, during **Moksha 2003 & 2004**, the annual cultural fest of NSIT Was awarded **Certificate of Excellence** for Moksha 2004.
- **Sports**
  - College Soccer Team 2002-2003, 2003-2004
  - School Hockey Team (Junior)
  - School Soccer Team (Senior)
  - Gold Medal in Volleyball, Intra-College Sports Tournament, 2002 & 2003
  - Gold Medal in Soccer, Intra-College Sports Tournament, 2002 & 2003
  - Silver Medal in Shot-put, during Sports Days in NSIT, 2002
  - Silver Medal in Tug of War, during Sports Days in NSIT, 2002
  - Silver Medal in Soccer, during Professional Colleges Sports Tournament, in Delhi College of Engineering in 2001
  - Represented the College in Soccer, during Professional Colleges Sports Tournament, in Delhi College of Engineering in 2002
  - Gold Medal in Tug of War, during Sports Days in NSIT, 2003
  - Bronze Medal in Shot-put, during Sports Days in NSIT, 2003
- **Summer Jobs**
  - Designed the database for storing the questions archive since 1986 of **Quest**, the inter-college science aptitude contest conducted by **CSEC** (Centre for Science Education and Communication) for the University of Delhi
  - Designed the database and front-end for storing sales of greeting cards for **Spastic Society of Northern India (SSNI)**
- **Misc.**
  - Designed the poster for **Avalanche**, the rock show, during **Moksha 2003**, in NSIT
  - Active member of the Music Society, NSIT, as a guitarist
  - Published 2 stories in the NSIT College Magazine **INSITE** (Aug. 2002)
  - Merit in Poster making competition in Sardar Patel Vidyalaya, 1998
  - Designed the logo for **Chhotu**, an NGO for helping street children
  - Worked with the **Neighbourhood Project**, a child literacy campaign in high school.
  - Illustrated a brochure on *Science and Technology Literacy for All* for **CSEC** (Centre for Science Education and Communication)