



INSTITUTE DETAILS:

Roll No. 05D07030 **Batch** 2010
Department Electrical Engineering **Program** Dual Degree (B.Tech + M.Tech)

PERSONAL DETAILS:

Name Kedar Chandrayan **Sex** Male
Date of Birth 26/02/1987 **Nationality** Indian
Address Room no.162,Hostel 5, IIT Bombay, Powai - 400076 **City** Mumbai

ACADEMIC DETAILS:

Degree / Certificate	School / College	Year	Performance
Graduation	IIT-Bombay	2005 - present	CPI (at the end of 6 th semester) 8.32 on scale of 10
Intermediate + 2	Shivaji Science College, Nagpur.	2004	87.5%
Matriculation	Sunflag School, Bhandara.	2002	93.6%

ACADEMIC HONORS:

- Secured All India Rank 409 (**top 0.1%**) in the IIT Joint Entrance Examination, 2005.
- Secured State Rank of 118 in All India Engineering Entrance Examination (AIEEE), 2005
- Maharashtra State's school scholarship holder.
- **District topper** in Holy Faith International (HFI) state level scholarship examination for three consecutive years-1998, 1999, 2000.

AREAS OF INTERESTS:

Wired and Wireless Communication, Signal Processing, Networks.

PRACTICAL TRAINING:

Guide: prof. Arun K Somani (professor, ECpE Department, Iowa State University)

- **Infrastructure Protection using Computer Vision**
Using a surveillance webcam to monitor an area to detect and identify foreign objects and give an alarm signal when such an object was detected. This alarm signal was transferred to a base station using a network of MICA2 wireless nodes. This involved writing C++ code using OpenCV library and writing tinyOS2 applications which will run on the nodes. These nodes can be used to protect infrastructural property in remote area without using manual surveillance.
- **Automobile CAN Bus remote control using SMS**
A slave cell-phone was connected through the RS232 port to a microcontroller (AT89C5103). On receiving an SMS the slave cell-phone interrupted the microcontroller which responded by reading the SMS using AT commands and issued necessary commands on the CAN bus to switch ON and OFF an automobile device.

PROJECTS UNDERTAKEN:

- **GPS Navigation System**
Guide: prof. Girish Kumar (professor, Department of Electrical Engineering, IIT Bombay)
Developed a GPS Navigation System, capable of showing the present location of the user on map using a LCD Screen. Also logs the coordinates and stores them on a SD card.
- **Fiber Optic Communication Course Project, spring 2008**
Guide: prof. R.K. Shevgaonkar (professor, Department of Electrical Engineering, IIT Bombay)
Solving the non-linear Schrödinger pulse propagation equation using split-step Fourier Method.

- **Fiber Optic Communication Course Paper Presentation, spring 2008**
Guide: prof. R.K. Shevgaonkar (professor, Department of Electrical Engineering, IIT Bombay)
Gave a presentation on the topic: Network Dimensioning under Scheduled and Random Lightpath Demands in All Optical WDM Networks. This was based on a paper taken from Selected Areas in Communication, IEEE Journal on Volume 25 Issue 9 Part Supplement December 2007.
- **Infrared Receiver, autumn 2007**
Guide: prof. H.Narayanan (professor, Department of Electrical Engineering, IIT Bombay)
Designed an IR Receiver capable of decoding the IR pulses from a standard TV remote. Different tasks were performed on pressing different buttons.
- **Wire-less mesh network, summer 2007**
Guide: prof. U.B.Desai (professor, Department of Electrical Engineering, IIT Bombay)
Actively participated in setting up a wireless mesh network in the EE Department. Also did its performance study. Used Microtik clients for setting up the APs.
- **Digital Calculator, spring 2007**
Guide: prof. A.N.Chandorkar (professor, Department of Electrical Engineering, IIT Bombay)
Designed a digital calculator, capable of performing basic algebra on decimal numbers. Used PALs (Programmable Array Logic) and standard TTL ICs for the implementation of different logic functions.
- **Electrical Company Presentation, spring 2006**
Guide: prof. V.M.Gadre (professor, Department of Electrical Engineering, IIT Bombay)
Gave presentation on RF-ID tags and their use in security and authorization.
- **Rubik Cube Solver, autumn 2005**
Guide: prof. Sharat Chandran (Department of Computer Science and Engineering, IIT Bombay)
Developed C++ code for solving a 3x3x3 Rubik Cube in layer after layer fashion. The program used EzWindows library for graphical display. The program instructed the user, at each step, which face to rotate and in which direction (clockwise or anticlockwise).

SOFTWARE SKILLS:

- Languages: C/C++, Perl, PHP, Java, Assembly language (8085, 8051, MSP430, etc.), PALASM (Programmable Array Logic).
- Undertaken Continuing Education Program (CEP) course in **Advanced C++** in summer 2007 and was awarded **excellent** grade.
- OS proficiency: MS Windows, Linux Distributions.
- Web-design with LAMP (Linux/Apache/PHP/MySQL).
- Simulation and design tools: Matlab, Scilab, Spice, Multisim, Eagle, Simulink.

RELEVANT COURSES:

- Communication Systems, Electromagnetic Waves, Optics, Fiber Optics Communication, Signals and systems, Statistical signal analysis, Probability, Random Processes.
- Control Systems, Digital Circuits, Microprocessors, Analog Circuits, Semiconductor Devices, Electrical Networks Analysis, Electrical Machines, Quantum Physics.
- Applied Linear Algebra, Complex Analysis, Differential Equations (Ordinary and Partial), Computational methods, Optimization, Data Structures and Algorithms, Computer Programming and Utilization (C++).

EXTRA-CURRICULAR ACTIVITIES:

- Active member of **GRA** (group for rural activities), a group involved in technical innovations in rural regions of India.
- Was a part of the winning team in the Performing Arts Festival, 2007. Performing Arts Festival (**PAF**) is the annual inter-hostel dramatics team-event at IIT Bombay.
- Love skating and playing Badminton. Won finals in Badminton event in the annual sports festival of Ashok Leyland Club Bhandara, 2001.
- Took a French language course under CEP at IIT Bombay in autumn 2007.

DECLARATION:

I hereby declare that the above information is true to the best of my knowledge.

*Dual Degree program means that the candidate is awarded B.Tech. and M.Tech at the end of 5 years. UG and PG courses are taught in an integrated manner.