
PERSONAL DETAILS

AAKASH PATIL

Final Year Under Graduate (Dual Degree)

Department: Electrical Engineering

Specialization: Microelectronics

Present Address: 173, Hostel-5, IIT Bombay

Hometown: Alibag, Raigad

E-MAIL: aakashpatil@iitb.ac.in | aakash.iitb.07@gmail.com

PHONE: +91-8976970672

EDUCATION

Examination	University	Institute	Year	Performance
Dual Degree	IIT Bombay	IIT Bombay	2011	8.5 /10 (till 8 semester)
Intermediate/+2	Maharashtra State Board	S. V. Jr. College, Mumbai	2007	90.50 % (PCM-94%)
Matriculation	Maharashtra State Board	R.C.F. Sec. School, Alibag	2005	85.20 %

Awarded Minor Degree in Computer Science and Engineering, IIT Bombay

ACADEMIC PROJECTS

Class E/F RF Power Amplifier (Dual Degree Project)

[ongoing]

Guide: Prof. A.N. Chandorkar Software: Cadence

- Aimed at front to back-end design of CMOS Integrated RF Power Amplifier Chip for Bluetooth
- Studied the **working and merits of hybrids** of Class E with different Class F⁻¹ variants
- Designed the **Schematic** of differential PA and currently working on it's **Layout**

Electronic Design Lab Projects

[2010]

Guide: Prof. Dipankar, Prof. J. Mukherji

Team Size: 2/4 Software: Eagle, Octave/ AVR Studio

- Developed a prototype which can acquire **Electromyogram** signals by using **non-invasive sensors**
- Developed a prototype of **touchpad** using cantilever mounted strain gages **to sense which** of the predefined 16 **area** blocks on touchpad was **pressed** and display the corresponding key

VLSI Design Course Mini-Projects

- Differential **Opamp** inclusive of bias-generation and common-mode feedback (Software: Cadence)
- Thermometer-To -Binary **Encoder** with better bubble-error tolerance (Software: NgSpice, Magic)
- Time-Interleaved SAR **ADC** with low-power capacitor-array switching procedure (Software: Cadence)

Other Microelectronics Courses

- **System level** design courses with mini-projects based on Verilog/VHDL (Software: NgSpice, XILINX)
- **Device level** courses with mini-projects of NMOS design using process and device simulators

Computer Programming Projects

- Interface for online shopping of ICs using pqxx library of C++, embedded SQL, wt toolkit
 - Post-office like system to send messages between process for interprocess communication
-
-

INTERNSHIP/TRAINING

Internship at Cosmic Circuits Pvt. Ltd., Bangalore

[May-Jul 2010]

Project Title: Digital IIR Filter Design Software: GNU OCTAVE

- Worked-out the **feasibility** of using IIR filters as option to FIR filters being used in Cosmic Circuits
- Performed a **comparative analysis** of different **IIR filter structures** with respect to **performance** and **hardware requirement** for implementing 8 given touch-screen application filter specifications
- Designed IIR filter to meet stringent group delay constraint for **Multirate Programmable Audio Filter**

Internship at Bit Mapper Integration Technologies Pvt. Ltd., Pune

[Dec 2010]

Project Title: FPGA Implementation of FFT Software: XILINX

- Came up with **architecture** to implement **floating point real FFT** of continuously streaming data
- Analysed the performance of different algorithms available as **XLINIX** IP core for complex FFT

In-Plant Training at Rashtriya Chemicals and Fertilisers Ltd., Trombay

[Jun 2009]

- Studied the working of Steam Generation Plant and Industrial Control Systems like PLCs and DCS

ACHIEVEMENTS in COMPETITIVE EXAMS

- Secured **All India Rank 182** among more than 2.5 lakh students appeared for IIT-JEE 2007

Olympiads

- Placed in **National Top 1%** students in **NSEP 2006-07** and **selected for INPhO 2007** (Physics)
- **Successful** at **RMO 2006** and **selected for INMO 2007** (Maths)
- Placed in **Statewise Top 1%** students in **NSEC 2006** (Chemistry)

Scholarship Examinations

- Awarded National Talent Search (**NTS**) **Scholarship** (given to **1000 students**) by **NCERT** in 2005
- Awarded **State Scholarship** for securing **5th and 15th rank in state** in rural category in Maharashtra Talent Search Examination (**MTSE**) in 2004 and 2003 respectively

OTHER ACTIVITIES

Sports

- State level player in Table Tennis during school years
- District winner in athletics during school years
- Participate in inter-hostel sports

Organisational Activities

- **Teaching Assistant**, IIT Bombay
- **Co-ordinator**, Techfest 2009

Other Interests

- Like to solve puzzles and regular participate in puzzle competition
 - Secured high **rankings in** Indian Puzzle and Sudoku Championship (**IPC & ISC**)
-
-

AWARDS

- **'Best Student Award'** for all-round excellence in year 2006-07 in S. V. Jr. College, Mumbai
- 3 time **'General Championship'** awardee for excellence in sports in R.C.F. School, Alibag

Dream Career

- VLSI Designer in India-based Company
 - Starting with IC design and may be later move on to system and product design
-
-