

CHIRAG NAGPAL

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EDUCATION

University of Pune, India <i>Bachelor of Engineering (Computer Engineering)</i> Courses: Digital Electronics, Microprocessor Architecture, Computer Organisation, Microprocessor Interfacing Techniques, Data Structures, Mathematics - I, II, III Overall Percentage: 83.4% GPA: 3.98/4.00 (upto 3rd semester) First Class With Distinction, 1 st Position in Department	2012 - 2016
Delhi Public School, Jaipur <i>AISSCE (CBSE, Class XII)</i> Physics, Chemistry, Mathematics, Multimedia and Web Technology Percentage: 94%	2010 - 2012
St. Joseph's Convent School, Pathankot <i>AISSE (CBSE, Class X)</i> Science, Mathematics and English GPA: 10	2008 - 2010

EXPERIENCE

Netaji Subhas Institute of Technology, New Delhi <i>Mentor, Texas Instruments Centre For Embedded Product Design</i> <ul style="list-style-type: none">· Professionally mentored second and third year students from leading universities in India on Texas Instruments ICs and Microcontrollers.· Trained students on software packages like CadSoft EAGLE, TI Code Composer Studio.· Guided students with embedded system projects on TI MSP430 and ARM Cortex M4.	Dec 2013 - Jan 2014
Indian Institute of Technology, Delhi <ul style="list-style-type: none">· Attended a workshop on 'Creativity and Innovation' after qualifying the National Creativity Aptitude Test.· Aim was to develop creative thinking and enhance achievement motivation.	July 2013

PROJECTS

GPIO Access Through Linux User Space <i>ARM Cortex A8 (BeagleBone Black)</i> <ul style="list-style-type: none">· Implemented a novel technique of GPIO access using the Linux mmap() system function and /dev/mem.· Studied the architecture of the TI AM3359 ARM A8 Controller with special regard to GPIO addressing.· Achieved a GPIO toggle rate of over 2MHz as compared to the standard 3kHz speed.· Work was featured on leading electronics blog, Hack A Day. http://hackaday.com/2013/12/07/speeding-up-beaglebone-black-gpio-a-thousand-times/	Nov - Dec 2013
PC controlled Laser Pointer <i>ATmega328 (Arduino)</i> <ul style="list-style-type: none">· Interfaced servo motors to the ATmega328 (Arduino) using PWM signals.	Dec 2013

- Established RS-232 serial communication between PC and Atmega328.
- Wrote a Linux compatible Python script to read mouse coordinates and send them using serial over USB.
- Work was featured on leading electronics blog, **Dangerous Prototypes**.
<http://dangerousprototypes.com/2013/12/18/laser-pointer-controlled-with-a-pc-mouse/01111>

Mobile Camera Robot

Sep - Oct 2013

ARM Cortex A8 (BeagleBone Black)

- Implemented a Web Server using LIGHTTPD and Wi-Fi with static IP on ARM Cortex A8 running Angstrom Linux.
- Established a 640x480 resolution video stream from a webcam through a simple PHP based web page.
- Interfaced an HMC5883 Magnetometer using I²C, and L293DNE Motor Driver for direction & control.

Morse Code Generator

Jun - Jul 2013

TI MSP430

- Designed the PCB on CadSoft EAGLE, and developed it using Toner-Transfer method.
- Interfaced legacy PS/2 Keyboard, 16x2 Character LCD to the MSP430.
- Utilised the TI Code Composer Studio to program the controller in Embedded C.

TECHNICAL SKILLS

Programming Languages	C/C++, Python, Java, Shell Scripting, VHDL, R, Latex
Platforms	x86, Arduino, MSP430, ARM Cortex M4, ARM Cortex A8
Operating Systems	Unix, Linux, Embedded Linux, Windows
Tools	EAGLE, Eclipse IDE, Xilinx ISE, GIMP

ONLINE COURSEWORK

Johns Hopkins University

Jan - Feb 2013

Computing for Data Analysis

- Grade: 71/100
- Programming in R, creating data graphics, writing functions and creating R packages.

AWARDS AND ACHIEVEMENTS

- Selected for MIT Media Lab DIY Workshop, India, 2014(could not attend due to University Exams).
- Sir Ratan Tata Memorial Scholarship, for standing 1st in Computer Department, 2013.
- Merit Scholarships by Indian Army for excellence in academics in the years 2013, 2012 & 2010.
- National level, 5th Position, 'National Creativity Aptitude Test', 2013
- Winner Intra-College 'India Quiz', 2012.
- Selected for INSPIRE (Innovation in Science Pursuit for Inspired Research) program at University of Rajasthan, 2010.

EXTRA CURRICULAR

- Open Source enthusiast and contributed to the Angstrom Distribution of Linux for Embedded Devices via GitHub.
- Board Member, College Magazine, 'Srijna'.
- Team Member of College Quiz and Debate Club.
- Hobbies include Horse Riding & Swimming.