

# PRABHPREET SINGH DUA

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## EDUCATION

Year	Degree	Institute	GPA/Percentage
2012- Now	B. Tech (ECE), 6 <sup>th</sup> Semester	NIIT University	9.1/10 (Till 5 <sup>th</sup> Sem)
2010-2012	XII CBSE Board (Physics, Chemistry, Math, Biology)	National Centre for Excellence, Bangalore	89.6%
2008-2010	Xth : Academy District 20 (Colorado State) (Science Math Honors) Electives: Intro to Engineering Design, Honors Principles of Engineering	Air Academy High School, USAFA, Colorado, USA	4.0/5.0 (Weighted)

## SKILLS

- **Programming Languages:** C (Embedded and ANSI C), Java (Intermediate), Ruby
- **Microcontroller Programming:** ARM Cortex M3 (Basic knowledge), Embedded C on AVR ATMEGA (16,128,328,2560), CCS C and assembly(PIC Mid Range Series), Arduino Uno (Intermediate)
- **Hardware Languages:** VHDL (Basic)
- **Simulation Software:** MATLAB (Intermediate), Proteus 8 (PCB Layout and Microprocessor code simulation), PSpice (Analog Circuits), NS2 & NS3, Cisco Packet Tracer
- **Web Development:** JavaScript (Meteor Web Framework, jQuery), HTML5, CSS3, PHP (Basic)

## ELECTRONICS AND COMMUNICATION COURSES

Currently pursuing in 6<sup>th</sup> Semester:

Advanced Digital Signal Processing	Advanced Embedded Systems	Digital Image Processing	Communication Networks
R&D: Cooperative Spectrum Sharing in Cognitive Radio Networks			

Completed in previous semesters:

Electrical Science	Analog Electronics	Digital Logic and Circuits	Signals and Systems
Communication Systems	Digital Signal Processing	Electromagnetic Theory	Microprocessors and Microcontrollers
Digital Communication	Semiconductor Principles	Integrated Electronics	Operating Systems

## ACHIEVEMENTS

- Awarded full scholarship for academic performance at NIIT University since 1<sup>st</sup> semester
- Won 2<sup>nd</sup> prize in CX Forensics Debate at NFL Regionals at Sierra High School, Colorado Springs, CO, 2009
- Air Academy High School Principal's Merit List (2008, 2009). Won Gold Lamp award
- Won 3<sup>rd</sup> Prize (Bronze Medal) for bridge building event at Colorado Science Olympiad State Level Competition, 2008

## EXTERNAL COURSES COMPLETED

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- Hewlett Packard Education Services Training in Embedded Systems & Robotics (Duration 4 Weeks) with A Grade, Bangalore, May-June 2014
- BSNL Vocational Training in Telecommunication Technologies (Level B Duration 2 Weeks) with A+ Grade, Bangalore, July 2014

## CONFERENCES/ SEMINARS ATTENDED

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- COMSNETS 2015 – 7<sup>th</sup> International Conference on COMMunication Systems & NETWORKS, Bangalore (January 2015)
- IBNC India Workshop on Cisco Network Design & Implementation (January 2015)

## PROJECT EXPERIENCE

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### Digit Recognition Using Neural Networks (NIIT University)

Developed a Digit Recognition System using neural networks in Digital Image Processing (Learned from Coursera's Machine Learning Course)

### Real time EDF Scheduler on ATMEGA 2560 Microcontroller (NIIT University)

Developed a real time Earliest Deadline First scheduler on ATMEGA2560 microcontroller and ATMEGA328 (Arduino). (<http://prabhpreet.github.io/Scheduler/> )

### E-Yantra Robotic Competition 2014, IIT Bombay (Represented NIIT University)

Lead a team from NIIT University and developed a weed picking robot on NEX Robotics Firebird V platform (with ATMEGA 2560 microcontroller). The robot traverses a black line, distinguishes weeds and plants (by height), picks the weed and dumps them in a designated place.

### Automatic Room Temperature Control (NIIT University)

Lead project team and developed prototype for controlling room temperature on user preference by adjusting vents of Earth Air Cooling System (used in our university hostels). Developed the algorithm and wrote code in C (CCS) for PIC16F877A, designed the circuit and PCB. As a team built working prototype and successfully tested for the design goals (Demo: <http://youtu.be/kcRBH8WgSn8>)

### Badnaam (Program in Java), NIIT University

Built a Java GUI program for blurring a face in a photograph for a 3<sup>rd</sup> Semester OOP Course project. Manually implemented a convolution and blur radius icon hover mechanism for blurring. (Download at <http://goo.gl/czdZRD>)

### NU Avenues (Blogging platform), NIIT University

Developed and maintained an informal university online blogging community called Avenues on Tumblr. Also did custom theming and developed a unique sticky navigation bar using jQuery and CSS3. Archives at <http://supnu.tumblr.com> (previously on <http://nuavenues.in>)

### Vividha Website (Collaborative platform), NIIT University

Developed a website for university's creative club, Vividha. Developed a RSS feed parser in PHP and using regular expressions for displaying public Google calendar events. No readymade web framework was used. (<http://vividha.nuavenues.in>)

### Programmer, Rocky Mountain Robotics (2008-2010), Colorado, USA

Worked as a member of programming team for Team #662, Rocky Mountain Robotics for FIRST Robotics Competition at Colorado State Level. In 2008, I worked on programs to get input from joystick controls in C. In 2009, my role was to program the pneumatic arm controls for the robot, in C++. FIRST Robotics open source libraries were used.