SIDDHARTH SHARMA

Website: siddharthsharma52.github.io
Email: siddharthsharma@nsitonline.in

EDUCATION

University of Delhi, Netaji Subhas Institute of Technology (NSIT) *June 2014*
Bachelor of Engineering
Division of Instrumentation and Control Engineering

Overall Percentage: 62.48 %
(after dropping 12 credits as per provision of University of Delhi): 62.89 %
Bachelor's Thesis Project: Implementing Speaker Recognition Using Student's t-Mixture Modeling
BTP Score: 80.00%

TECHNICAL SKILLS

Programming	C/C++, Python, MATLAB, VHDL, Processing, LaTeX
Software Tools	EagleCAD, PSpice, Cadence Virtuoso, LabVIEW
Hardware	Arduino, Raspberry Pi, pcDuino, Atmel AVR, ARM Cortex M3 (with TI StellarisWare), PCB Design, Oscilloscopes
Operating Systems	Linux (Ubuntu and Raspbian), Windows

INTERNSHIPS AND RESEARCH POSITIONS

Viterbi School of Engineering, University of Southern California June 2013 - August 2013
Summer Intern *Los Angeles, CA*

- Worked in the BioRC research group led by Dr. Alice C. Parker in the Ming Hsieh School of Electrical Engineering. The target of the research group is to mimic the human brain's neural structure through analog VLSI and nanotechnology
- Within the BioRC group, involved with the C.Elegans project team with target to mimic the neural structure of C.Elegans worm. To implement this, developed software and algorithms to automate the synthesis of analog neural network circuits
- Presented poster titled "Automatic Neuromorphic Circuit Connection Software" on the same at Ming Hsieh School of Electrical Engineering

mLabs Research September 2012 - May 2013
Research Intern *New Delhi, IN*

- Designed Arduino and Raspberry Pi based circuits, integrating devices like tft-touch display, wifi-module, DACs and analog switch matrix micro-chips by employing bus communication protocols like SPI and I2C. Involved in designing multi-layer PCBs
- Developed modules for memristor characterization using arduino
- Worked in the three-person prototype development team of Bit-by-Bit (B3): a product that enables everyone to design their own hardware and 'internet of things', collaboratively and over the cloud, and is now supported by Microsoft Ventures in London. The product employs the same hardware architecture we designed

Centre for Electronics Development and Technology (CEDT), NSIT December 2011 - July 2012
Student *New Delhi, IN*

- Attended lectures on Embedded Systems Design and Computer Architecture conducted by professor D.V. Gadre, Divison of Electronics and Communication Engineering, NSIT
- Attended workshop on Using Arduino in Embedded Systems projects and PCB Design and Fabrication
- Was involved in various hardware projects. Details given in the 'Projects Undertaken' section

Bosch Chassis Systems, Gurgaon Plant June 2011 - July 2011
Summer Trainee *New Delhi, IN*

- Worked on project titled "Implementation of Poka–Yoke Using Electronic Sensors". Designed and implemented a panel for Poka-Yoke on a riveting machine in the drum-brake house in the manufacturing plant
- Wrote a review paper with the same title that won First Position (cash prize of Rupees 5000) at Kriti: Paper Presentation Competition during Innovision 2012, the annual technical fest of Netaji Subhas Institute of Technology
- Learned about the various manufacturing processes employed in the plant. Learned about various quality assurance techniques like Poka–Yoke and Six–Sigma and how they are employed in the manufacturing plant
- Attended a two–day workshop on Introduction to Programmable Logic Controllers (PLCs) conducted by visiting engineer from Siemens, Italy

PROJECTS UNDERTAKEN

Bachelor's Thesis Project: Implementing speaker recognition using Student's t–Mixture Model
Mentor: Dr. Smriti Srivastava, Dean, Undergraduate Studies, NSIT *January 2014 - June 2014*

· Developed a robust, text independent speaker recognition system modelled on Student's t-mixtures. Defended thesis in front of panel of faculty members of Division of Instumentation and Control Engineering, NSIT.

"Pac–Man" on Digital Storage Oscilloscope July 2012
Laboratory: CEDT, NSIT

· Developed single player "Pac–Man" on a Digital Storage Oscilloscope (DSO) as part of Atmel Oscilloscope Design Challenge, Centre for Electronic Development and Technology, NSIT, New Delhi
· Established Graphic Display in X–Y mode of DSO using two R-2R ladder network circuit based Digital to Analog Converter and Gameplay through a basic controller interfaced by Arduino

Non-Invasive Heart Rate Monitor April 2012 - June 2012
Laboratory: CEDT, NSIT

· Developed the heart-rate monitor using IR sensor by employing the principles of Plethysmography. Displayed ECG graph using Processing

"Snake" game on an 8x8 LED Matrix March 2012
Laboratory: CEDT, NSIT

· Played through a basic controller interfaced with Arduino

PCB Design and Fabrication December 2011
Laboratory: CEDT, NSIT

· Designed and fabricated the PCB for a 5VDC voltage–regulated power supply with maximum current drive of 1A using EagleCAD
· Provided fold-back current limiting for short-circuit protection

LEADERSHIP EXPERIENCE

Crescendo - Music Society of NSIT June 2012 - May 2013
President

· Previously an inactive society, brought significant improvement in activity and presence. Appointed an administrative core team of 6 members out of a total of over 50 members in the society
· Successful organization of Crescendo Eve in September, 2012, with 15 musical performances of varied genres by society members. Crescendo Eve is now an annual event at NSIT
· Successful stint at Rendezvous 2013, Annual Cultural Fest of IIT - Delhi, with 2nd position in Solo Western Vocals, 3rd position in Solo Instrumentals and participation in Group Western Vocals

EXTRA-CURRICULAR ACTIVITIES

· Playing the bass guitar. Familiar with musical staff notation
· Member of College Basketball Team during first two years of college