

Darsh Shah

darshs@qualcomm.com

(+91) 916-008-5312

<http://darshshah.org/>



Work Experience

- Jun, 12 – Ongoing** **Qualcomm Inc, India**
Working as an Associate Engineer in field of Computer Vision. Developing APIs and test automation suite to test the APIs on hardware.
- Jan, 12 - May, 12** **Playpower Labs, India**
Interned at a startup company in Gandhinagar as a game developer and designer. Made educational games in flash for school children. One of the games is hosted at <http://goo.gl/q6wSM>
- Aug, 11 – Dec, 11** **Research Assistant**, Embedded Systems & Sensor Networks Research Group, DA-IICT
Worked on Wireless Optical Sensor Network Design for a Conducting Chamber. Researched about methodologies to improve communication using Infrared. Made prototypes on custom PCB for the developed designs and did alpha testing in the lab.

Education

- 2008-12** Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar (Gujarat, India)
B.Tech in Information and Communication Technology
CPI 8.84/10
- 2007-08** St. Kabir High School, Ahmedabad (Gujarat)
Gujarat Secondary Education Board
87.00 % (aggregate)
- 2005-06** St. Kabir High School, Ahmedabad (Gujarat)
Gujarat Secondary Education Board
89.86 % (aggregate)

Skills

- Expertise Area** Embedded System, Wireless Sensor Networks, Digital System Architecture, Computer Networks.
- Programming Language** C, C++, Verilog, Perl, Embedded C for AVR, SQL, Assembly language for 6502, Actionscript 3.0, NesC and Contiki (Beginner level)
- Tools: Software** AVR Studio, WinAvr, Xilinx, Matlab, Logisim, Multisim, Labview, NS2, Eagle, Adobe Flash
- Tools: Hardware** Spartan 3 FPGA, ATmega16/32, Basic Stamp2, Lego Mindstrom Nxt, Arduino, Raspberry Pi, STK500 and Fablab tools including Laser cutter, Shopbot and Lathe
- Technical Electives** Embedded System Programming, Digital System Architecture, Wireless Sensor Networks, Network Protocols, Robotics, Embedded Hardware Design, Digital Signal Processing, Digital Image Processing.

Internships

- Rural Internship** **Hadoti Natural Society** Dec, 09
Guide: Professor Ganesh Devy and Mr. Rakesh Vyas Team Size – 4
We worked in rural areas of Kota district, visiting different villages and working on human – crocodile conflict and its amelioration measures.
- Research Internship** **Playpower Foundation, Carnegie Mellon University, USA** Feb,10 – Sep,10
Guide: Derek Lamos(CMU), Prof. Mathew Kam(CMU) Team Size – 12
I coded for 6502 processor which was used in the video games. We made 3 games and were tested in Ahmedabad, Bengaluru and Mumbai.
- Research Internship** **Wireless Optical Sensor Network Design for a Conducting Chamber** May,11–July,11
Guide: Prof. Prabhat Ranjan Team Size – 2
Sensor Network Testbed for Tokamak Environment using IR instead of RF for Nuclear Reactor. It is supported by National Fusion Program, Board of Research in Fusion Science. I continued as a RA on this project from Aug,11

Publications

"Improved Speed IR Communication based Sensor Network for Tokamak In-Vessel Monitoring" - **Darsh Shah**, Vedang Patel, Abhishek Borkar and Prabhat Ranjan to 26th National Symposium on Plasma Science & Technology (PLASMA-2011), December 20-23, 2011, Patna, India.

"Play Exemplars from Playpower.org" - Derek Lomas, Kishan Patel, Dheeraj Medikonda, **Darsh Shah**, Yash Soni, Anshul Pahwa, Dixie Ching at International Academic Conference on Meaningful play, October 21-23, 2010, Michigan State University, East Lansing, Michigan, USA.

Patent

Applied for patent at Patent and Trademark office, Mumbai for an invention titled "A Novel Standalone Printer Add-On Device and System". Application number: **2753/MUM/2011**.

Major Projects

- smarT: A smart and interactive t-shirt for specially abled people** Mar, 12
Guide: Nanwei Gong and Nan Zhao, MIT Media Lab, MA, USA Team Size – 4
Made a prototype of a t-shirt which has a LED panel in front for displaying information on the shirt. The final idea is to read gestures using camera and display text on the LED panel.
- Optical Cense: Making a Wireless Sensor Network for a Conducting Camber** Jan,11 – Dec,11
Guide: Prof. Prabhat Ranjan, DA-IICT Team Size – 2
This funded project was started in Jan and I worked on it also during my Research Internship and became a Research Assistant for the same during the 7th sem. Designed the PCB, did unit testing of the components and alpha testing.
- CONNECT2LEARN: An Interactive Virtual Classroom** Jan,11 – Apr,11
Guide: Prof. Asim Banerjee, DA-IICT Team Size – 10
As a part of software engineering course, we are making a virtual classroom using Java. It is an open-source project. The virtual classroom project aims at connecting students to teachers via internet.
- Computation of 4 Point DFT using Radix2 FFT Algorithm on FPGA** Oct,10 – Nov,10
Guide: Prof. Rahul Dubey, DA-IICT Team Size-5
Implemented the FFT algorithm on the FPGA, taking the inputs from oscilloscope and giving output on LEDs. The butterfly algorithm was used and was coded in Verilog.
- Automatic Mail Detecting Postbox** Nov, 10
Guide: Prof. Anil Roy, DA-IICT and Prof. Anil Gupta, IIM-A Team Size-1
Made a Automatic Mail Detector Postbox for National Innovation Foundation and was displayed at Ignite 2010 awards held at IIM-A. The postbox detected any mail which was dropped in the box using IR sensors

and intimidated the user for the same.

KEYS2DOTS: Braille Printer

Guide: Ken Endo and Nadya Peek, MIT Media Labs, MA, USA

Made a working prototype of a printer which converted keyboard strokes into corresponding braille letter and prints them on paper. This project was done as a part of MIT-COEP Design Innovation Workshop 2011.

Jan, 11

Team Size-5

NI ELVIS II

Guide: Prof. Rahul Dubey, DA-IICT

Testing of National Instrument's ELVIS II platform. We developed a report on the various experiments that can be conducted on it and also basic features provided by it.

Jun, 09

Team Size-4

Positions of Responsibility

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|--|-----------------|
| • Research Assistant , BRFST sponsored project in WSN | Aug,11 – Dec,11 |
| • Secretary , IEEE Student Branch, DA-IICT | Feb,11 – Dec,11 |
| • Publicity Manager, IEEE Student Branch, DA-IICT | Mar,10 – Feb,11 |
| • Event organizer of a One day workshop on Matlab | Apr,10 |

Awards and Achievements

- Was selected for **MIT Media Lab's** Design and Innovation Workshop which was held in Pune in 2011 and Delhi in 2012.
- Consolation prize for our design of Automatic Water Dispenser in Re-Kriti held during Synapse 2009.
- 2nd place in CEID Entrepreneurship contest held at DA-IICT in 2008.

Interests and Hobbies

Playing basketball and soccer. Learning new things, playing with gadgets and tinkering with hardware in my mini-lab. I write about things which I do and love @<http://blog.darshshah.org/>

Declaration: The above information is correct to the best of my knowledge.

Darsh Shah

Sept. 21, 2012