Shashwat Sanghavi

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Education: (2012-2016)

School of Engineering and Applied Sciences, Ahmedabad University, Ahmedabad, Gujarat
B.Tech - Information and Communication Technology (ICT)
CGPA: 3.61 (First rank)

Experience:

Full time teaching assistant at Ahmedabad University **Aug 2016-present**

- Operating systems
- Introduction to computer programming

Full time Student Fellowship at Veture Studio **Nov 2015 – Jun 2015**

- **Kahinee - An interactive voice response system for rural healthcare**
  A platform for delivering voice aided services was developed for imparting health education in rural areas using creatively designed audio plays. It also allowed them to ask questions pertaining to various health issues.

Part time teaching assistant at Ahmedabad University

- Introduction to Computation and Programming lab with C language and MATLAB **Jan 2016 – May 2016**
- Introduction to Computer Programming (ICP) lab with C language **Jul 2014 – Dec 2014**
- Object oriented programming (OOP) lab **Jan 2014 – May 2014**
- Introduction to Computer Programming (ICP) lab with C language **Jul 2013 – Dec 2013**

Areas of Interest: Machine Learning, Image Processing & Computer Vision, Embedded systems & robotics.

Coursework: Machine learning, Cloud computing, Bioinformatics, Algorithms & Optimization for Big Data, User centered design, Embedded systems, Digital signal processing, Information and coding theory.

Publication and Presentation:

- Patel, Rahul, Shashwat Sanghavi, Dhruv Gupta, and Mehul S. Raval. "CheckIt-A low cost mobile OMR system." In *TENCON 2015-2015 IEEE Region 10 Conference*, pp. 1-5. IEEE, 2015.
- Kahinee - A rural healthcare initiative using IVR/VAS systems has been selected for presentation in IndiaHCI2016 – HCICafe Track at IIT Bombay.

Awards and Achievements:

- **Gandhian Young Technological Innovation (GYTI) Award** by SRISTI for the project "CheckIT- A lowcost mobile OMR system". This award was presented at Rashtrapati Bhawan, New Delhi by Dr. R A Mashelkar (Chair person, National Innovation Foundation, India). **– Mar 2016**
- **Innovative Trainers Award** by Indian Society for Training and Development, Baroda Chapter for the project Kahinee. **– Feb 2016**
- **Certificate of Appreciation by IEEE-Gujarat Section** for volunteering at IET-AU student branch during the year of 2015.
- Speaker at workshop on android app development for Managers, Designers and Non-IT professionals **– Jul 26, 2016**
- **First prize** for "home automation" project in "venture IT" competition held under "**CSI Regional Student Convention Region-III** **– Jan 2015**
- 2 times Winner of intra university graffiti competition

Projects:

Mobile phone camera based OMR reader (Team size-2): **Nov 2014 – Present**
An application to check OMR sheet using mobile phone camera was designed and developed. This project involved concepts of Image Processing & Computer Vision.

Classification of proteins using SVM (Team size-4) **Jul 2015 – Nov 2015**
Using SVM-Light library, an algorithm to classify Cyclin protein sequence was developed.

Simulation of JPEG compression (Team size-2) **Jul 2015 – Nov 2015**
To understand image compression fundamentals effectively, a simulation of JPEG compression was developed in MATLAB.

Cloud based storage portal (Team size - 4) **Jul 2015 – Nov 2015**
We developed a multi-tenant SAAS application which allowed user to store their data. Based on their requirements, each tenant admin could alter the behavior of the portal.

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Improved CORDIC algorithm - Combined Coefficient Selection and Shift and Add Implementation (CCSSI) (Team size - 8) **Jan 2015 – Apr 2015**

The project was based on IEEE Transaction paper which proposed a new method to develop low complexity multiplier less rotators. The algorithm was implemented in MATLAB. Using the algorithm a hardware for 8-point FFT was identified, coded in Verilog.

Fair Share Scheduling (FSS) (Team size - 4) **Jan 2015 – Apr 2015**

A part of Linux Kernel 2.6.18 was modified in order to implement and evaluate fair share scheduler. In the process, we understood fundamentals of Linux Kernel and scheduling algorithms.

Face Detection in full-HD video in real time (Team size - 4) **Jan 2015 – Apr 2015**

The project was aimed to find out faces in the full HD video. We studied various face detection and tracking algorithms. We succeeded in traversing 43 frames in single second in this project.

Bluetooth controlled smart home switches/fan regulator (Team size - 2): **Jul 2014 – Nov 2014**

The goal of this project was understanding the principles of embedded system design, interfacing and microcontrollers. The major deliverables were an android application and a hardware to control lights, fans and fan-speed remotely.

Spell suggestion aid/checker (Team size-2): **Feb 2013 – Apr 2013**

This project's prerequisite was a deep understanding of data structures. The final deliverables of the project were a set of programs that checked for incorrectly spelt words in a file and also suggested the appropriate meaningful spelling for each error made. Auto-completion was also developed as a part of this project.

Technical skill set:

Hardware: Atmega microcontrollers, Arduino programming
Programming languages: C/C++, HTML, PHP, Python, android programming (Beginner level)
DBMS: SQL
Operating System: Windows 7, 8, Linux
Tools: MATLAB, openCV, scilab, Audacity

Leadership experience:

- **Student branch chair** at Ahmedabad University students' branch of IEEE **(2015)**
- Intra college **festival committee head**: responsible for annual festival of the college **(2013–2014)**
- Intra college **cultural committee head (2012–2013)**

Volunteering experience:

- Coordinator at **ACM-IBNC** (2015)
- Student member at **IEEE** (2015)

Workshop/Seminars /Competitions attended:

- Participated in Source Code 3.0 competition organized by IEEE Student Branch of Nirma University on 7th-8th October, 2013.
- Participated in GDG Mapathon 2013 organized by Google Developers Group, Ahmedabad on March 9th-10th, 2013.
- Participated in Electronic System Design Workshop Level 1 organized by The Learning Labs at IICT-AU on December 10th-12th, 2012.