

## Chirag Shah

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### Career Objective

Self-Motivated engineering student, trying to develop innovative solutions to simplify tasks through robotics and information technology. Aiming to develop solutions, to improve the efficiency and quality of manual tasks through assistive robotics

### Education

Year	Degree/Certificate	Institute	CGPA / Percentage
2012	Secondary School Certificate	Fr. Agnel School	95.09%
2014	Higher Secondary School Certificate	Fr. Agnel School	86.08%
2014	1st Semester Btech EXTC	K.J. Somaiya College of Engineering	7.65
2015	2nd Semester Btech EXTC	K.J. Somaiya College of Engineering	8.54
2015	3rd Semester Btech EXTC	K.J. Somaiya College of Engineering	8.17
2016	4th Semester Btech EXTC	K.J. Somaiya College of Engineering	8.8
2016	5th Semester Btech EXTC	K.J. Somaiya College of Engineering	8.24
2017	6th Semester Btech EXTC	K.J. Somaiya College of Engineering	8.32
2017	7th Semester Btech EXTC	K.J. Somaiya College of Engineering	9.32

EXTC - Electronics and Telecommunication

### Projects

#### **Autonomous Water Rover** (July 2017 - Present):

An autonomous lake monitoring system is being developed, which can also be used for other applications such as depth mapping, fish finding etc.

#### **Robo-Rehab** (December 2017 - Present):

A continuous passive motion device for the arm, is being developed to aid physiotherapists in rehabilitation of paralysis victims.

#### **Anomaly Detection in a Bottling Plant** (December 2017 - March 2018):

A computer vision based system was designed to detect anomalies such as under filling, over filling in a bottling plant.

#### **SONAR using AVR and Matlab** (March 2016):

An ultrasound sensor mounted on a servo was used to get obstacles in a 180 degree field of vision and the results were plotted using matlab.

#### **Robocon** (November 2015 - March 2016)

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**Intrusion Detection System** (Jan 2015-July 2015):

A network IDS was developed using C# ,as an intern in LucideusTech pvt. Ltd a company, incubated at SINE IIT B.

## **Internships and Trainings**

### **1. Software Developer at Lucideus Tech Pvt.Ltd (Jan 2015-July 2015)**

A network Intrusion Detection System was developed using C# and various cyber security related concepts were understood.

### **2. Co-Founder of Infigyaan (Oct 2016-Dec 2017)**

Co-founded a campus company turned partnership firm to provide android development training and internships to students in engineering colleges. The firm was dissolved in December 2017.

### **3. Student at Eduvance Summer Industrial Training (May 19 2017- June 19 2017)**

In the Summer Industrial Training in Embedded Systems and IoT, at K.J. Somaiya College of Engineering concepts related to embedded systems, IoT were understood and implemented. ARM University and Cypress Semiconductors University Alliance certificates were also earned in the same course.

### **4. Teaching Assistant at Eduvance (June 19 2017- July 13 2017)**

Assisted the conduction of Summer Industrial Training in Embedded Systems and IoT at SIES graduate School of Technology

### **5. Teaching Assistant at Ekagrata NGO (March 19 2016- July 13 2017)**

Conducted a fifteen day, basic electronics workshop using kits provided by Eduprime pvt. Ltd for underprivileged kids in Dharavi.

### **6. Marine Robotics Workshop at National Institute of Oceanography (Feb 12 2018- Feb 17 2018)**

Attended a workshop on marine robotics which was taught by eminent professors and scientists from around the globe.

## **Research Publications**

### **Bottling Line Inspection System using Digital Image Processing :**

Presented at 'ICIES 2018: 1st International Conference on Interdisciplinary Engineering and Sciences-2018 Pune, India, March 23-24, 2018' The paper will be published in the International Journal of Computer Applications (IJCA).

## **Positions of Responsibility**

### **1. Captain of the Table Tennis Team of KJSCE (June 19 2015- March 19 2018)**

- Won Silver at Mummbai Unversity, Men's Team Event in 2014 and 2015.
- Won Gold at Skream, Men's Team Event in 2014 and 2016.

## **2. Sports Secretary (June 2016-May 2017)**

- Head of the organising committee of Skream 2017, KJSCE's National level sports event and other sporting activities of the college
- Member of the organising committee of Symphony 2017, the cultural fest of KJSCE
- Member of the organising committee of Abhiyantriki 2016, the technical fest of KJSCE. Introduced an inter-collegiate robotics competition in Abhiyantriki for the first time

## **3. Senior Member Team KJSCE Robocon (May 19 2017- June 19 2017)**

- Guided the junior members of the software team
- Organised and taught in a workshop on robotics by team KJSCE Robocon
- In-charge of all pneumatic systems on the robot.

## **4. Volunteer Co-ordinator at CACR (Nov 2015-March 2017)**

Conducted the computer literacy programme by CACR (Citizens Association of Child Rights) and co-ordinated with the volunteers for the same programme in Mulund.

### **Online Courses Completed**

1. Image and Video Processing: From Mars to Hollywood with a Stop at the Hospital (Coursera – Dec 2017)
2. Hardware Modelling Using Verilog (NPTEL – Aug 2017)
3. Design for Internet of Things (NPTEL – July 2017) Top 1%
4. Introduction to Internet of Things (NPTEL – July 2017) Top 5%
5. Introduction to Machine Learning (NPTEL – July 2017)
6. A developer's guide to the Internet of Things (Coursera – June 2017)

### **Technical Skills**

1. Software Platforms Used:
  - Embedded C programming for AVR (Intermediate)
  - Python programming on RPI (Intermediate)
  - Arduino Programming (Intermediate)
  - HTML, JavaScript, CSS (Basic)
  - Node-Red (Intermediate)
  - IBM Bluemix for IoT (Basic)

- Matlab for Image processing and Machine Learning (Intermediate)
- Verilog (Basic)
- Ardupilot Framework for Autonomous Rovers

## 2. Hardware Platforms :

- Arduino
- Raspberry PI 3b
- FRDM KL25Z
- Navio2

### Soft Skills

- Self Motivated
- Ability to Work Under Pressure
- Time Management
- Teamwork
- Problem Solving

### Extra-Cirricular Activities

- Table Tennis
- Painting and Sketching
- Volunteering in Education domain

### Co-Cirricular Activities

- Won the "Most Realistic" award at the eYantra Ideas Competition 2018
- Qualified for the stage 2 of 'eYantra Robotics Competition 2018 (Theme – Feeder Weeder)'
- Won the "Design Contest" at the 31st International Conference on Vlsi Design & 17th International Conference on Embedded Systems for the project "Autonomous Water Rover"
- Won the award for "Outstanding Research" at 'ICIES 2018: 1st International Conference on Interdisciplinary Engineering and Sciences-2018 Pune, India, March 23-24, 2018'
- Qualified for presentation round of LnT Techgium 2018 for the project "bottling line inspection system using digital image processing"
- Qualified for zonal round of DRUSE-DRDO Robotics and Unmanned System's Exposition 2018, for the project "Autonomous Water Surveillance Rover"

- Qualified for the semi final round of Innovate FPGA, an International Competition by Terasic, for the project "Autonomous Water Rover" (Ongoing)
- Qualified for the stage 2 of 'Smart India Hackathon 2018 Hardware Edition' for the project 'Robo-Rehab' (Ongoing)
- Qualified for the Grand Finale of 'Maruti Suzuki Colours of Youth Technovation Challenge' for the project 'Autonomous Water Rover' (Ongoing)

## Personal Details

Father's Name : Mukesh Shah  
 Mother's name : Jaya Shah  
 Date of Birth : 9th October 1995  
 Nationality : Indian  
 Marital Status : Single

## References

### 1. Mr. Avinash A Prabhudesai

Assistant Professor  
 Mechanical Dept.  
 avinashp@somaiya.edu

Prof. Avinash Prabhudesai is the project guide of my final year project "Autonomous Water Rover". His work in KJSCE includes a university grant project on a regenerative brake and a consultancy project on performance improvement of a sugarcane harvester. He is Faculty Advisor for KJSCE Robocon and has an US Patent for "Radiator Grille" which was granted in January 2017.

### 2. Mrs. Arati Phadke

Associate Professor  
 Electronics Dept.  
 aratiphadke@somaiya.edu

Prof. Arati Phadke was my eYIC mentor and has also taught me a audit courses on 'painting and sketching' and also on 'VHDL'. She is also working as In charge of Accreditation for Institute since July 2014. She has been the Head of Department of Electronics Engineering from May 2008 to June 2011 and Dean (Students Affairs ) from May 2005 to April 2008.

## Declaration

I, Chirag Shah declare that all the details in this document are true and a valid proof of the same will be made available if required.

**Date : April 19, 2018**