

Shubham Agrawal

shubhag@iitk.ac.in

Homepage: <http://home.iitk.ac.in/~shubhag>

Phone: 9621255599

Educational Qualifications:

Year	Degree	Institute/School, City	Performance
2016*	B.Tech, CSE	IIT Kanpur	8.6/10
2012	Class XII CBSE	Tagore International School, Jaipur	89%
2010	Class X CBSE	Tagore International School, Jaipur	9.8/10

*expected year of graduation

Scholastic Achievements:

- Secured an **All India Rank-155** in **IIT-JEE 2012** and **All India Rank-105** in **AIEEE 2012**.
- Secured an **All India 4th** position in **National Science Olympiad 2012**.
- Secured an **All India 11th** position in **International Mathematics Olympiad 2012**.
- Achieved an All India Rank-268 in NSTSE-2011.

Areas of Interest:

- Image Processing
- Web Development

Projects:

- **Video Surveillance**

Summer Project mentored by Prof. Harish Karnick

(May 2014-June 2014)

- The project involved improving the video surveillance system for traffic monitoring in the campus of IIT Kanpur.
- Recognized useless frames from the camera feed and **extracted “interesting” frames** from the video to **reduce the storage space** required for data.
- Analysed and implemented adaptive **background subtraction algorithms – static frame difference, median background subtraction and mixture of Gaussians** method (MOG) for background modelling.
- Implemented the **Voila-Jones object detection** framework for classifying the interesting objects using Haar features.
- **Extracted candidate licence plate areas** from the images as a first step towards Licence Plate Recognition. The candidate areas were **optimised** for character recognition using **morphological operations**.

- **Jutja.com**

Start-up

(March 2014 - Ongoing)

- **Co-founder** of a **start-up jutja.com**, a project management website with mind-mapped tasks.
- **Part** of a **start-up jutja.com**, a project management website with mind-mapped tasks.
- Designed the user interface of the website and currently working as a front-end developer.
- Implemented the mind-mapped visualization of tasks using Vivagraph library in JavaScript.
- The website uses single-page interface to avoid reloading of webpage.

- **Online C Compiler**

Summer Project mentored by Prof. Amay Karkare

(May 2014 -June 2014)

- Developed a website to compile and run c programs online.
- Application uses IITK vyom server to login.
- Integrated Ace Editor Plugin for proper code formatting.
- Introduced a section in the website to practise different programming problems.

- **E-Glove**

Summer Project under Electronics Club, IITK

(May 2013 – June 2013)

- Designed an **electronic wearable glove** which uses hand gestures to **control mouse and keyboard**.
- Used accelerometer and flex sensor to detect hand gestures.

- Implemented simulation of mouse and keyboard using a C program.
- **Instifreaks**
Application developed in Yahoo! HackU 2013 (22-25 August 2013)
 - Developed an android reminder app to wake up the user to attend lecture on time.
 - The app firstly initiates an alarm. If user does not attend the alarm, it sends a “wake me up” message to user’s friends.

Technical Skills:

- **Coding Languages:** C, C++, Python, Perl, Java, Bash, HTML, JavaScript, CSS,XML, MySQL, PHP, Ruby, Rails, Node.js
- **Other Tools:** Git, Latex, GNU Octave
- **Operating Systems:** Windows, Linux

Extra-Curricular Achievements:

- Won **1st prize** in **Electromania** (made a snake game) in **Techkriti’13**, Annual technical festival of IIT Kanpur.
- Secured **2nd position** in **Embedded** (made a bubble burst game), **Takneek’13**.
- Achieved **2nd position** in Electromania in Takneek’12, made a frog game using basic ICs.

Relevant Courses:

Theory of Computation*	Operating Systems*
Data Structures And Algorithms	Algorithms*
Computing Laboratory	Computer Organization
Probability And Statistics	Fundamentals of Computing
Linear Algebra	Discrete Mathematics

*Courses to be completed by Dec’14

Position of Responsibility:

- **Coordinator ECDC**, Techkriti’14
 - Successfully organised four events with an overall participation of over 500 participants.
 - Increased the popularity of events by designing posters and videos for the event.
- **Secretary** of Electronics Club
 - Organized hall level workshops and worked in a team to organize a hall level competition.
 - Guided and mentored the students on different projects and competitions.
- **Secretary** of Public Relations in Antaragni’13
 - Ensured a smooth conduct of all the events organized under the Public Relations.
 - Managed the hospitality of the esteemed judges throughout the events.