Shubham Agrawal
shubhag@iitk.ac.in

Homepage: http://home.iitk.ac.in/ shubhag
Phone: 9621255599

Education

- **Indian Institute of Technology, Kanpur** — 8.6/10 CPI
  B.Tech, Computer Science and Engineering(2012 - present)
- **Tagore International School, Jaipur** — 89%
  Class 12(2012)
- **Tagore International School, Jaipur** — 9.8/10 CGPA
  Class 10(2010)

Scholastic Achievements

- Secured an **All India Rank-155** in IIT-JEE 2012 and **All India Rank-105** in AIEEE 2012
- Awarded the prestigious **Kishore Vigyan Protsahan Yojna(KVPY)** fellowship in the year 2012
- Secured an **All India 4th position** in National Science Olympiad 2012
- Secured an **All India 11th position** in International Mathematics Olympiad 2012

Projects

- **Video Surveillance**
  Summer Project mentored by Prof. Harish Karnick   *May 2014 - present*
  - The project involved improving the video surveillance system for traffic monitoring in IIT Kanpur
  - **Extracted interesting frames** from the camera feed to **reduce the storage space** required for data
  - **Analyzed and implemented adaptive background subtraction algorithms** - static frame difference, optical flow and mixture of Gaussians method (MOG) for background modeling
  - Implemented the **Voila-Jones object detection framework** for classifying the interesting objects
  - **Extracted candidate license plate areas** from the images as a first step towards License Plate Recognition. The candidate areas were **optimized for character recognition using morphological operations**

- **Jutja.com**
  Startup   *March 2014 - present*
  - **Part of a startup 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

- **Online C Compiler**
  Summer Project mentored by Prof. Amay Karkare   *May 2014 - June 2014*
  - Developed a website to **compile and run c programs on an online platform**
  - Integrated Ace Editor Plugin for proper code formatting
  - Introduced a section in the website to practice 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**
  - 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 lectures on time
  - The app initiates an alarm before the lecture time. If user does not attend the alarm, app sends a "wake me up" message to user's friends

Technical Skills

Programming Languages: C/C++, JavaScript, HTML, CSS, Bash, Perl, MySQL, Python, Nodejs

Other Tools: Git, LaTeX, OpenCV, GNU Octave

Operating Systems: Linux based OS's, Windows

Extra-Curricular Achievements

2013 Won **1st prize in Electromania** (made a snake game) in Techkriti, annual technical festival of IIT Kanpur

2013 Secured **2nd position in Embedded** (made a bubble burst game), Takneek

2012 Achieved **2nd position in Electromania** in Takneek, made a frog game using basic ICs

Position of Responsibility

- **ECDC Coordinator**, Techkriti'14   *Nov 2013 - Mar 2014*
- **Secretary of Electronics Club**, IIT Kanpur   *May 2013 - Mar 2014*
- **Secretary of Public Relations**, Antaragni'13   *Sept 2013 - Oct 2013*