

# Shashwat Kathuria

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## EDUCATION

<https://shashwatkathuria.github.io/>

**INDIAN INSTITUTE OF TECHNOLOGY, JODHPUR** | PRE FINAL YEAR B.TECH IN COMPUTER SCIENCE  
CGPA: 9.14/10 (Till 4th Semester) • Department Rank 4 • Expected 2021

**G. D. GOENKA PUBLIC SCHOOL, NEW DELHI** | CBSE

Class 10, 2015 • CGPA : 9.6/10

Class 12, 2017 • Percentage : 96%

## INTERESTS

Data Structures & Algorithms • Android Application & Web Development • Machine Learning • Game Development

## TECHNICAL SKILLS

### PROGRAMMING LANGUAGES

C • C++ • Python • Java • JavaScript • Ruby • Lua

### ANDROID APP DEVELOPMENT

Android Studio • React Native

### WEB DEVELOPMENT

Django • Ruby on Rails • Flask  
JavaScript • HTML • CSS • Bootstrap  
PostgreSQL • SQLite • MongoDB

### UTILITIES

Git • SSH • Raspberry Pi • Microsoft  
Azure • Heroku

## PROJECTS

### SOCIALCLOUD\* | WEB DEVELOPMENT, JAVASCRIPT APPLICATION

\*(Ongoing Project) | [GitHub](#)→

An online social media website for users to post images and follow others. Currently implementing using Ruby on Rails , Bootstrap(HTML / CSS / JavaScript) , AngularJS and a combination of SQLite , PostgreSQL and MongoDB .

### NATURAL LANGUAGE PROCESSING | MACHINE LEARNING, NLTK, SCIKIT

B.TECH PROJECT | [GitHub](#)→

Programmed various Hindi and English Part of Speech Taggers using Hidden Markov Model with Viterbi's Algorithm ( Bigram and Trigram ) , Decision Tree Classifier Model Tagger and achieved 92.85 % accuracy.

### IITJ HEALTHCARE | SOFTWARE ENGINEERING, WEB DEVELOPMENT

[Demo Video](#)→ | [GitHub](#)→ | [Deployed on Heroku](#)→

An online health care assistance portal made using Django (Python) , combination of SQLite / PostgreSQL and Bootstrap (HTML / CSS / JavaScript) to help students get online prescriptions from doctors and availability regarding medicines through medical store.

### DRAWING CANVAS | WEB DEVELOPMENT, JAVASCRIPT APPLICATION

[GitHub](#)→ | [Deployed on Heroku](#)→

An online drawing application made using ReactJS , d3JS , combination of SQLite / PostgreSQL and Django (Python) to help users draw anything and save or load the same by communicating with the server.

## PONG, FLAPPY BIRD | 2D GAME DEVELOPMENT

[GitHub Pong](#)→ | [GitHub Flappy Bird](#)→

Programmed remakes of respective games made using the language **Lua** and framework **LÖVE2D**. Pong is a multiplayer game and Flappy Bird is a single player game.

## DISASTER SAFETY APP | ANDROID APPLICATION, WEB DEVELOPMENT

[GitHub Web App](#)→ | [GitHub Android App](#)→

Programmed an android and web application to broadcast and get online alerts regarding earthquakes, floods and hurricanes by communicating to the server, using **Flask (Python)** and **Android Studio (Java)**.

## CRYPTOGRAPHY | PYTHON, C

[GitHub](#)→

Analyzed and programmed **CBC Padding Oracle attack**, hash verification of videos using **SHA-256**, **CBC** and **CTR** Modes **AES Decryption**, **Many Time Pass** hack along with a guessing heuristic, and various historic ciphers like **Caesar** and **Vigenère** as a part of Cryptography I course under Professor Dan Boneh.

## DATA STRUCTURES AND ALGORITHMS | PYTHON, C++, C

3 Forks | Open-Sourced [GitHub](#)→

Programmed a total of 38 programs in **Python**, **C++** and **C**, a major part of which was of the Stanford University Data Structures and Algorithms Specialization under Professor Tim Roughgarden.

## DRAG V/S NORMAL PROJECTILE | PYLAB - PYTHON

[GitHub](#)→

Graphical comparison of drag and normal particle projectiles using **PyLab** library in **Python**.

# ACHIEVEMENTS

## SCHOLASTIC

- Rank 2471, JEE Main, among top 0.2% of 1.2 million participants
- Rank 2848, JEE Advanced, among top 1.5% of 0.2 million participants
- Data Structures & Algorithms 4 Course Specialization, Stanford University
- Cryptography 1, Stanford University
- MIT 6.00.1x Course, Massachusetts Institute of Technology
- MIT 6.00.2x Course, Massachusetts Institute of Technology
- CS50, Introduction to Computer Science, Harvard University
- SAT Subject PCM Perfect Scorer - 2400 / 2400
- SAT Score - 2100 / 2400
- 3 - Time Scholastic Excellence Awardee
- School Topper, Class 12 CBSE Exams

## EXTRACURRICULAR

- Former State Level Football Player, New Delhi
- Football Inter - Zonals Winner, New Delhi
- 4 - Time School Level Athletics Record Breaker
- Participated in Various Olympiads, Trekking Camps

# POSITIONS OF RESPONSIBILITY

- Vice Sports Captain | Class 11
- Sports Captain | Class 12