




# Sarthak Rout

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Second Year Undergraduate  
Department of CSE, IITK

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## EDUCATIONAL BACKGROUND

Year	Degree/Exam	Institute	CPI/%
2019 - Present	B.Tech (Computer Science and Engineering)	Indian Institute of Technology, Kanpur	9.5/10
2019	CBSE(Class XII)	Sir Padampat Singhanian Public School, Kota	95.2/100
2017	CBSE(Class X)	DAV Public School, Chandrasekharpur, BBSR	10/10


## SCHOLASTIC ACHIEVEMENTS

- Recipient of **Academic Excellence Award** from IIT Kanpur. 2019
- Secured All India Rank **202** in JEE (Advanced) among over 0.2 million students. 2019
- Secured All India Rank **207** in JEE (Main) among over 1.3 million students. 2019
- Qualified for **OCSC of IJSO and IAO 2016, IOAA 2017, IOAA 2018, IChO and IOAA 2019** organised by HBCSE.
- Selected for **Kishore Vaigyanik Proasthan Yojana (SA)** fellowship with AIR **42**, IISc Bengaluru 2018
- Recipient of **National Talent Search** Scholarship, NCERT from MHRD, Gov. of India. 2017

## PROJECTS

- **TestApp - Live** (Autumn 2020)  
*Self Project*
  - Developed an assessment application using **Angular** integrated with **Firebase**.
  - Implemented concepts of **routing**, **services**, **observables** and **modularity** and used **RxJs** library.
  - Used it to conduct online MCQ examination for about 20 students.
- **Private Computation using Cryptographic Primitives** (May '20 - Jul '20)  
*By SrT Club | Mentor: Aditya Gulati*
  - Learnt about **Private Computation**, **gRPC**, **Google Benchmark**, **Compiler Theory** and **Rust**.
  - Learnt about **Function Secret Sharing**, **Fully Homomorphic Encryption** and **Yao's Garbled Circuits**.
- **InfoSec IITK** (Feb '20 - Apr '20)  
*By ACA | Mentors: Priydarshi Singh, Varun Goyal*
  - Learnt about **SQL Injection**, **XXS** and **XXE injection** along with how to prevent them.
  - Learnt about **privilege escalation** using **Burp Suite**, **Metasploit**, **Nmap** etc.
  - Reported critical vulnerability in OARS, IITK which exposes databases storing grades of 6K+ students.
- **gradeLess - Course Project ESC101** (Aug '19 - Nov '19)  
*Under Dr. Piyush Rai, CSE*
  - Developed a **webapp** using **Angular** to check True/False and MCQ questions of **printed** answer sheets.
  - Integrated it with backend written in **Express** and used **Python** as scripting language for the Image Processing and Machine Learning part.

## TECHNICAL SKILLS

- **Programming Language:** C, C++, Python, TypeScript, Octave/Matlab
- **Libraries :** Pandas, SciKit-Learn, OpenCV, Selenium
- **Framework:** Angular, Express
- **Tools :** Git, , Metasploit

## RELEVANT COURSES

Fundamentals of Computing*	Real Analysis and Calculus*	Linear Algebra and ODE
Data Structures and Algorithms	Numerical Analysis*	Number Theory
Introduction to Electronics	Computer Organisation(o)	Software Development(o)
Modern Cryptology(o)	Quantum Computing(o)	(* $\equiv A^*$ , o $\equiv Ongoing$ )

## POSITIONS OF RESPONSIBILITY AND EXTRACURRICULARS

- Secretary, Programming Club
- Secretary, Entrepreneurship Cell (Startup Internship Program)
- Interned at Edvizo as Mentor in Maths teaching JEE Aspirants.
- Secured 16th position of Merit in HCL HackIITK
- Hackathon for detection of malware using Machine Learning. **Link**
- Competitive Programming: **Codechef**
- Bagged  $2^{nd}$  position out of 250+ teams in Mathemania-2020, a competition based on math puzzles - **Results**.