

SARTHAK SINGLA

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EDUCATION

Indian Institute of Technology, Delhi

B.Tech in Computer Science and Engineering

CGPA 9.660/10

July 2019 – Present

BGS International Public School, Dwarka

CBSE(XII)

96.2%

2019

BGS International Public School, Dwarka

CBSE(X)

CGPA 10/10

2017

SCHOLASTIC ACHIEVEMENTS

IITD Merit Certificate: Awarded in Semester 1 & 2 for being in top 7% students.

JEE Advanced Rank 72: Ranked 72 amongst 245,000 students.

JEE Mains Rank 425: Ranked 425 amongst 1,147,000 students.

NSEC: Qualified for INCHO (Indian National Chemistry Olympiad) in 2018.

RMO: Qualified for INMO (Indian National Mathematics Olympiad) in 2017.

KVPY Fellow: Awarded Fellowship by Department of Science and Technology, Government of India with Rank 86 in KVPY SA in 2017.

PRMO: Cleared in 2016 and 2017. Precursor to RMO (Regional Mathematics Olympiad).

NTSE Scholar: One of 922 students awarded scholarship out of 1,000,000 students across India. Ranked 1 amongst 50 students qualified from Delhi for Stage-2.

NGSE: Got 100 percentile in NGSE Mains and Qualified in NGSE Advanced in 2016.

JSTSE Rank 3: One out of 150 students awarded with scholarship. Ranked 3 amongst 17,000 students from Delhi.

PROJECTS

Image Processing Algorithms

October 2019 – November 2019

Intro. to Computer Science(COL100) : Prof. Prem Kalra, IIT Delhi

Python

- Averaging Filter Algorithm - An Algorithm to average out the pixels in the image.
- Edge Detection Algorithm - An Algorithm to detect edges in the image.
- Implemented an algorithm to find least energy path from top to bottom of an image.

Quantitative Trading and Basics of System Building

January 2020 – February 2020

Under Quantify Capital

- Successfully completed an analysis of 2 stocks.
- Project got rank 2 in Institute.

Dynamic Memory Allocator

November 2020 – December 2020

Data Structures and Algorithms(COL106) : Prof. Rahul Garg, IIT Delhi

Java

- Implemented Free and Allocated Memory Blocks using Doubly Linked Lists.
- Implemented Free and Allocated Memory Blocks using BSTrees and optimised by making them AVLTrees (Trees indexed by Tuple).
- Implemented an Algorithm to Allocate & Free Memory Blocks and Defragment Free Memory.

Independent Storylines Calculator

December 2020 – January 2021

Data Structures and Algorithms(COL106) : Prof. Rijurekha Sen, IIT Delhi

Java

- Made a program to calculate number of independent storylines in a graph representing co-occurrence of characters.

Multi-Modal and Multi-Model Indexing

December 2020 – Present

Prof. Srikanta Bedathur, IIT Delhi

- Indexing and Performance evaluation of virtualisation layer on top of multiple databases.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Dart, HTML/CSS, JavaScript, Octave, MATLAB
Frameworks: Flutter, Django, Bootstrap, AutoDesk Inventor, Latex
Developer Tools: VS Code, Android Studio
Libraries: NumPy, Pandas

COMPLETED COURSES

Computer Science

- Introduction to Computer Science
- Data Structures and Algorithms
- Discrete Mathematical Structures
- Digital Logic and Hardware Design

Mathematics

- Calculus
- Linear Algebra and Differential Equations
- Introduction to Probability & Stochastic Processes

Others

- Introduction to Electrical Engineering
- Electromagnetic Waves and Quantum Mechanics
- Principles of Electronic Materials

Online on Coursera

- Machine Learning
- Neural Networks and Deep Learning
- Financial Markets
- Trading Algorithms

CURRENT COURSES

Computer Science

- Programming Languages
- Computer Architecture
- Design Practices

Others

- Signals and Systems
- Introduction to Psychology

VOLUNTEERING ACTIVITIES

National Social Service

January 2020 – Present

NSS, IITD

- **Vidya Teaching Project:** Helped students of a local school in their studies, January 2021 to Present
- **Intellify:** Made Mathematics Assignments for the students of Class 10th, June 2020 to July 2020.
- **Climate Crusade:** Actively worked to spread awareness of climate change in the campus, January 2020 to March 2020.

Academic Mentorship

December 2020 – Present

Board for Student Welfare, IITD

- Mentored first-year students in their Calculus course.

CO-CURRICULAR

Chess: Represented hostel in Inter-Hostel Chess Tournament for freshers.

Guitar Enthusiast

Art: Member of Fine Arts Society of IITD “AZURE”