

Dhruv Kumar Gupta

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ACADEMIC DETAILS

Year	Degree	Institute	CGPA/Percentage
2019-Present	B.Tech. Computer Science & Engineering	Indian Institute of Technology Delhi	10.00
2019	Class XII, CBSE	DAV Public School	94.8 %
2017	Class X, CBSE	DAV Public School	10.00

SCHOLASTIC ACHIEVEMENTS

- Awarded **IIT Delhi Merit Prize** in every semester for being in the top 7 percentile of students.
- Secured **All India Rank 9** in Joint Entrance Exam Advanced - 2019 among 161,000 candidates.
- Secured **All India Rank 58** in Joint Entrance Exam Mains - 2019 among 1.15 million candidates.
- **Bronze Medalist** at the 20th Asian Physics Olympiad 2019, Adelaide, Australia with **rank 37**
- Among the **top 46** students to qualify for **Physics OCSC** for 50th IPhO, Israel
- Among the **top 30** students to qualify for **Chemistry OCSC** for 51st IChO, France
- Among the **top 30** students to qualify for **Astronomy OCSC** for 12th IOAA, China
- Among the **Top 6** students to qualify for **INMO** (Indian National Mathematics Olympiad) from Delhi
- Among the **Top 70** students to qualify for **INOI** (Indian National Olympiad in Informatics).
- Secured **AIR 81** in KVPY Fellowship program by *Dept. of Science & Technology, Govt. of India*
- Awarded NTSE Scholarship in 2016-17 by *N.C.E.R.T. New Delhi*

PROJECTS

- **Effect of Dust accumulation on Solar panel** *Oct, 2019 - Present*
Prof. Vikram Singh
 - Learning about Computational Fluid Dynamics algorithms to solve Navier-Stokes equations for Air
 - Simulating Dust particles in Atmosphere using ANSYS Fluent to predict deposition on solar cells and by extension, their efficiency
 - Building a model with MATLAB to predict rate of photochemical reaction in a suspension experimentally
 - Working on predicting effect of presence of light scattering particles in a Photochemical Reactor
- **Memory Manager** *Nov 2020*
Course Assignment
 - Implemented a dynamic memory allocator in java using First Fit and Best Fit approaches
 - Implemented Allocate and Free operations as well as Defragment to reduce wasted space
 - Used Linked List, Binary Search Trees and AVL trees to make the allocator more efficient
- **Nand2Tetris** *Jul, 2020 - Aug, 2020*
Coursera Project
 - Built a fully functional CPU chip alongside 32K RAM chip starting from only NAND gates on a Hardware simulator
 - The Chip could run machine code consisting of 16-bit instructions and could also run a program like Tetris
 - Learnt about Hardware description language(HDL) and Assembly Language
 - Built a compiler in Python to translate Assembly code to machine code.
- **Quaran-Teach** *April, 2020 - June, 2020*
 - Co-created a platform based on Google Apps Script to connect IIT-D students to JEE aspirants during Quarantine
 - Connected 300+ Aspirants with over 60 Mentors to provide Academic help as well as emotional support
 - The Script assigned a mentor as soon as a student registered and the details were sent automatically through mail

• One Step Up

Oct, 2019 - Nov, 2019

Course Project

- Designed and built a Walker which could climb up and down stairs for elderly people in a team of 5 by recycling metal parts from a junkyard
- Designed the whole walker using Autodesk Inventor and used 3d printing for Handles
- It had retractable front legs which could be adjusted based on the height of stairs

TECHNICAL SKILLS

- **Computer Languages:** Python, C/C++, Java, Standard ML, VHDL*
 - **Libraries:** Rasa*, TensorFlow*
 - **Software Skills:** MATLAB, Inventor, ANSYS Fluent
 - **Web/App development:** HTML, CSS, JavaScript, Google Apps Script, Django, Flutter, MySQL
- * Elementary proficiency

KEY COURSES TAKEN

- **Mathematics:** Linear Algebra, Calculus, Discrete Maths*, Probability & Stochastic Processes*
 - **Computer Science:** Data Structures & Algorithms*, Digital Logic & System Design*
 - **Online Courses:** Computer Architecture, Machine Learning
- * Ongoing

POSITIONS OF RESPONSIBILITY

- **Representative,** Fine Arts and Crafts Club, IIT Delhi Sep. 2020 - Present
- **Executive,** Physics and Astronomy Club, IIT Delhi Nov. 2020 - Present

EXTRA CURRICULAR ACTIVITIES

- **Quizzing :**
 - **First Rank** in Sopaan, Quiz based on Indian Mythology 2020
 - **First Rank** in Mathematics and Harry Potter Quiz 2020
 - **Third Rank** in Fresher's Quiz in IIT-Delhi 2019
- **Fine Arts :**
 - **Fourth Rank** in Charcoal Sketching competition 2020