Dhruv Kumar Gupta

Sophomore

Computer Science & Engineering

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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 Light Scattering on a photochemical reaction**   *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

- **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

- **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.

- **One Step Up**   *Oct, 2019 - Nov, 2019*
  MCP101 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*