PARTH THAKUR

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech and M.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	8.038
2021	CBSE	GVN-The Global School	90
2019	ICSE	The Sanskaar Valley School	97.4

TECHNICAL SKILLS

- **Programming Languages:** Java, Python, C, VHDL, SQL, Linux Shell, R, Standard ML, Go, Swift
- **Software / Libraries and packages:** GitHub, MATLAB, NumPy, pandas, TensorFlow, LaTeX, Autodesk Inventor, gnuplot, Bash

PROJECTS

- **Simulating 1D Collisions | Python | Prof. Ashish Chiplunkar** [September 2022] :
  - Simulated the collisions of balls in 1 dimension by predicting the time, location, and the balls which collide.
  - Implemented Customized Heap (a modified priority queue) with overall complexity for n balls and m collisions, O(n +mlog(n)).
- **Finding points within given Chebyshev Distance from a point | Python | Prof. Ashish Chiplunkar** [October 2022] :
  - Preprocessed the input points by making a 2D Range Tree and used Fractional Cascading to answer queries efficiently.
  - Preprocessing time of O(nlog(n)) needed for x sorting and y sorting and constructing the 2D range tree, andanswering queries in O(m + log(n)), by using Fractional Cascading.
- **Matrix Multiplier | VHDL | Digital Logic & System Design | Prof. Preeti Ranjan Panda** [November 2022] :
  - Implemented matrix multiplication on basys 3 board(FPGA) in Very High-Speed Integrated Circuit(VHSIC) Hardware Description Language.
  - Designed and integrated memories, registers, Finite State Machine, and multiplier-accumulator components.
- **N-puzzle game Solver | Python | Artificial Intelligence, CSMM.101x, Columbia University** [April 2020]
  - Built a general solver for the 8-puzzle game, which outputs the path to the goal, and analyzed its completeness, admissibility, and optimality.
  - Implemented breadth-first search, depth-first search, and A-star heuristic search algorithm using manhattan distance as a heuristic function.
- **2048 Game Solver | Python | Artificial Intelligence, CSMM.101x, Columbia University** [May 2020]
  - Used the concepts of adversarial search to create an intelligent 2048 player.
  - Implemented and optimized the minimax algorithm, alpha-beta pruning, and heuristic functions to generate the next move in less than 0.2 seconds.

INTERNSHIPS

- **CCE, IIT Kanpur** (April - June 2020) : *Trainee and Intern | Introduction to **Artificial Intelligence(AI)** and **Internet of Things(IoT)***
  - Created an obstacle-avoiding mobile-controlled robot using NodeMCU, IR Proximity Sensor, Ultrasonic Sensor, and Arduino programming language.
  - Explored and applied Data Wrangling, Machine Learning, Deep Learning, Statistics, App development, IoTProtocols, Server and Client configuration, and many other AI and IoT concepts.

SCHOLASTIC ACHIEVEMENTS

- **KVPY(SA) Fellowship All India Rank 96** among 100k students after a rigorous aptitude test and interview conducted by the Indian Institute of Science(IISc), Bengaluru.
- **NSEJS(National Standard Examination in Junior Science)** State Top 1% award from Madhya Pradesh.
- **Zonal Informatics Olympiad:** Selected for Indian National Olympiad in Informatics(INOI).
- **JEE Main:** Secured a rank in the top 1% among 1 million candidates across India.
- **JEE Advanced:** Secured a rank in the top 3% among 150k candidates selected across India.

QUALIFYING EXAMS

- **Test of English as a Foreign Language (TOEFL) Marks:** 113

EXTRA CURRICULAR ACTIVITIES

- **2nd Position** at RagnaRock(Inter Hostel Band Competition) | Acoustic Guitar, Electric Guitar | Music Club
- **2nd Position** at Mehfil(Indian Classical Music Band COmpetition) | Bass Guitar | Music Club
- **4th Position** at My Comfort Song | Music Production | Wellness Club
- **Volunteer** at Buddy Programme for International Students | International Programs

Disclaimer: All the information on this page is entered by student.

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IIT COURSE

Degree	Institute	CGPA
B.Tech and M.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	8.038

COURSES DONE

Calculus, Electromagnetic Waves & Qua.mec., Intro. To Computer Science, Linear Algebra & Diffe. Equa., Probability & Stochastic Pro., Discrete Mathematical Structur, Data Structures And Algorithms, Digital Logic & System Design

POSITIONS OF RESPONSIBILITY

• Executive, OCS, Others (May, 2022 - June, 2023)