



# HARSH VARDHAN SINGH PATEL



## ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Biochemical Engineering & Biotechnology	Indian Institute of Technology Delhi	7.36
2020	CBSE(XII)	Delhi Public School Allahabad	92.8
2018	CBSE(X)	Delhi Public School Allahabad	95

## SCHOLASTIC ACHIEVEMENTS

- **Minor Degree in Computer Science:** Secured GPA of **8.00** and completed 14/20 credits towards minor area requirement
- **Data Science Course Certification (Coursera):** Awarded for course completion with **92% grade**, offered by **Johns Hopkins University**
- **Server-side Development** with NodeJS, Express and MongoDB (Coursera): Secured **100% grade**, offered by Hong Kong Uni. of Tech

## INTERNSHIPS

- **Goglocal, Backend Development Intern:** *Spearheaded creation of APIs for backend of Goglocal's website* (June'23 - July'23)
  - Developed backend APIs for dropship price calculator, used to calculate and log prices of SKUs of different brands sold globally
  - Development was done using **AWS Lambda functions** called by the API endpoints on **API gateways** and deployed using **Serverless**
  - Programming was done using python, without any framework and **postgres** and **pgadmin4** was used for database management
- **Story Process, Backend Web Development:** *Contributed towards development of the web platform* (May'22 - July'22)
  - Developed backend of the website using **Express** framework over NodeJS and hosted the **NodeJS** app using **heroku**
  - Made APIs and logics for upload, delete, and download of files using the **aws-sdk** and **multer** npm packages
  - Implemented **JWT authentication** for verification and used **MongoDB** to maintain the database of tokens and users

## PROJECTS

- **Hospital Management Web App** (Prof. Ishaan Gupta, IIT Delhi & Dr. Deepali, AIIMS Delhi): *Django & HTML* (May'23 - Present)
  - Developed a **Django web application** to enhance the efficiency of the workplace and improve patient record management
  - Using **Django ORM** for database management and Django's inbuilt user model for login/logout and authentication
- **DRAM Address Traces Analysis** (Prof. P.R. Panda, IIT Delhi): *Utilizing Matplotlib, NumPy, and Pandas* (Mar'23 - Apr'23)
  - Used **Scaesim** for the simulation run of the DLRM neural network with different configurations and a standard topology file
  - Used **python, numpy, pandas and matplotlib** for detailed analysis and visualisation of address traces of DRAM access
- **Othello Game Winner Predictor** (Prof. Huzur Saran & Prof. Keerti Choudhary): *Data Structures & Algorithms* (Jan'23 - May'23)
  - Developed an algorithm to predict game winner by calculating best available moves for both players from a given board position
  - Represented board as **undirected graph** and used concepts of **binary lifting** and **alpha-beta pruning** to implement the algorithm
- **Critical Lines in a Wind Power Grid** (Prof. Huzur Saran & Prof. Keerti Choudhary): *Data Structures & Algorithms* (Jan'23 - May'23)
  - Implemented a power grid in the form of a graph with nodes representing wind power stations and found critical edges
  - Used concept of **bridge-edges** and optimized the solution with the help of **depth first search** and **dynamic programming**
- **Notion to Confluence Data Migration API:** *Streamlining Service Transition from Confluence to Notion* (August, 2022)
  - Developed a **NodeJS** app utilizing the **Notion API and Confluence Server REST APIs** to migrate data from Notion to Confluence
  - This tool can be used to enhance the efficiency when corporates using notion services want to switch to confluence.
  - Data is fetched using Notion APIs, stored in a **MySQL database**, uploaded to confluence page using Confluence Server APIs
- **Backend Development for Database Operations:** *NodeJS API Implementation for CRUD Operations* (January, 2022)
  - Used **NodeJS** and the **ExpressJS** framework for the backend development and **MongoDB** for cloud database services
  - Used **JSON web tokens and bcrypt** for creating protected routes, **access and refresh tokens** for authentication of user
  - Used **http only cookie** to store refresh tokens to make them inaccessible by normal html and make the app more secure

## TECHNICAL SKILLS

- **Programming Languages and Softwares:** Python, C++, JAVA, SQL, HTML, CSS, VHDL, SML, Javascript, Latex, Adobe Suite
- **Development Tools and Frameworks:** NodeJS, Django, GitHub, Postman, AWS Lambda functions, Express, Heroku, API Gateways

## POSITIONS OF RESPONSIBILITY

- **Tech Coordinator, EcoClub:** Led a team of 5 to develop, deploy and host the club website using ReactJS and Netlify (July'22 - May'23)
- **Tech Coordinator, SInC:** Led the team to develop, deploy and host the club website using ReactJS and Netlify (July'22 - May'23)
- **Deputy General Secretary, Biotech Society:** Leading a 3 tier team to organize and ideate all departmental events (June'23 - May'24)
- **Marketing Coordinator, BSA:** Led a team of 5 executives to design slab proposals and brochures for Inter IIT sports meet (June'22 - May'23)
- **Mentor, Board of Student Welfare:** Mentoring 3 freshmen, assisting them in their social as well as academic life (July'22 - Present)

## EXTRA CURRICULAR ACTIVITIES

- Represented the **Institute Basketball team at Inter IIT sports meet**, Udghosh (IIT Kanpur), played as the feeder in the team
- Represented Institute Basketball Team & **Winner, Urja(Thapar)**; played as feeder in the hostel team, **runner-up inter hostel GC**



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## IIT COURSE

### Degree

B.Tech in Biochemical Engineering & Biotechnology

### Institute

Indian Institute of Technology Delhi

### CGPA

7.36

## EXTRA CURRICULAR ACTIVITIES

- 3rd position, Inter-hostel Duo Competition 2021 (July, 2021 - May, 2022)
- 1st Position, Basketball Premier League (July, 2021 - May, 2022)
- Participation, Inter IIT, Basketball (June, 2022 - May, 2023)
- 1st Position, Urja, Thapar, Basketball (June, 2022 - May, 2023)
- 3rd Position, Inter-IIT Overall General Championship (June, 2022 - May, 2023)
- 3rd Position, Inter IIT, March Past (June, 2022 - May, 2023)
- 2nd Position, Inter-hostel, Basketball (June, 2022 - May, 2023)
- Winner, BSA General Championship Trophy (August, 2018 - March, 2019)
- Significant Contribution, Others (June, 2022 - May, 2023)
- Organizing Committee, Biosphere'23 (June, 2022 - May, 2023)
- 3rd Position, R G Machine Making (June, 2022 - May, 2023)
- Deputy General Secretary, Biotech Society

## POSITIONS OF RESPONSIBILITY

- Swimming - Captain, Zanskar, BHM (June, 2022 - May, 2023)
- Coordinator, BSA (June, 2022 - May, 2023)
- BSW Mentor, BSW (June, 2022 - May, 2023)
- Coordinator, Inter IIT, BSA (June, 2022 - May, 2023)
- Coordinator, BETA (Biotech Society), CAIC (June, 2022 - May, 2023)
- Coordinator, Economics Club, CAIC (June, 2022 - May, 2023)