



ADITYA GOEL



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	6.94
2020	CBSE Class 12	Pragati Public School, Dwarka, New Delhi	91.8
2018	CBSE Class 10	RED School, Charkhi Dadri, Haryana	96.4

SCHOLASTIC ACHIEVEMENTS

- **JEE Advanced (2020):** Attained an exceptional **All India Rank of 65** in **JEE Advanced 2020**
- **NTSE Scholar (2018):** Recognized in the **Top 0.1%** nationwide, **awarded scholarship** by the NCERT, Govt of India
- **KVPY Scholar (2019):** Among **Top 1%** nationally to be awarded Fellowship by **IISc, Bangalore** for exceptional sci. apt.
- **JEE Mains (2020):** Secured an impressive **All India Rank 794** among 1.4 million students nationwide
- **Olympiads:** Awarded by Govt of India with certificate of merit for ranking in **national Top 1%** in Physics and Chemistry

PROJECTS

- **Federated Query Processing in Apache Wayang (Prof. Kaustubh Beedkar) : Java** (July, 2023 - Present)
 - Contributed to **Open-Source Project**, spearheaded advancing **SQL API** for **unified cross-platform data processing**
 - Leveraged Apache **Calcite** to **parse SQL** queries, **optimizing** them before translating to a **Wayang Execution plan**
- **Predicting Length of Stay in Hospitals (Prof. Rahul Garg) : Python** (May, 2023 - July, 2023)
 - Analyzed **2.3 M** patient records from New York State **SPARCS**, and **segmented** it along racial, and demographic lines
 - Investigated multiple model categories consisting of **regression, decision trees, random forest, and XGBoost**
 - Identified XGBoost as top-performing model: **R2 value of 0.46** in **regression, 82% accuracy** in binary **classification**
 - Performed **Geospatial Analysis** using **Geopandas** to **identify anomalies** in disease spread per capita across NYS
- **Buildings of India (Prof. Srikanta Bedathur): PostgreSQL** (January, 2023 - April, 2023)
 - **Preprocessed** a dataset of **280,885 buildings** across India, including precise **geolocation** and **detailed attributes**
 - Constructed an intuitive **Django-driven** platform, enabling users to explore buildings via **diverse criteria and keywords**
 - Enhanced search responsiveness by **indexing and optimizing**, achieving **19.954 ms response time** for name queries
- **Data Mining (Prof. Sayan Ranu) : C++** (August, 2023 - November, 2023)
 - Implemented **Frequent-Itemset-Mining** using **FP-growth** algorithm, achieving **lossless dataset compression**
 - Evaluated diverse **Frequent Subgraph Mining** tools: **gSpan, FSG, and Gaston**, considering frequency threshold
- **Driverless Car Simulator (Prof. Rohan Paul) : Python** (August, 2022 - November, 2022)
 - Used **Numpy** library for virtually **simulating** the **operational physical environment** of a car as a **2D grid** world.
 - Developed a **probabilistic tracker** and an **Intelligent driver** for the car, achieving **98% safe** autonomous driving
- **Operating Systems (Prof. Smruti Ranjan Sarangi) : C** (January, 2023 - April, 2023)
 - Skillfully implemented **Real-Time Schedulers** and **Address Space Layout Randomization** in **XV6 OS's** kernel
 - Executed a complex **buffer-overflow attack** in **XV6 OS**, overwriting the **stack frame** of a vulnerable function

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, R, Java, Scala, JavaScript, PostgreSQL, Shell
- **Python Libraries and Frameworks:** Numpy, Pandas, Matplotlib, Tensorflow, OpenCV, Scikit-learn, Seaborn, Catboost, XGBoost, SHAP, Scipy, Pytorch, Keras, Django, Geopandas
- **Softwares and Tools:** Git, Spark, Hadoop, Calcite, Maven, Arduino, Autodesk Inventor, MS Office Suite

INTERNSHIPS

- **Plaksha University, Chandigarh : Heart Health Monitoring Project Lead** (May, 2023 - July, 2023)
 - Innovated a cost-effective, mobile 3-lead **ECG device** with telemedicine capability, achieving **95% heart rate accuracy**
 - Engd a **cloud-based MQTT broker** enabling doctors to **diagnose** patient ECGs **remotely**, advancing **telemedicine**
 - Employed an **ESP32 module** powered by a battery **as a client** for publishing patient data via **Bluetooth** or **MQTT**
 - Designed curriculum, curated learning materials, and delivered advanced programming sessions to **100 students**
 - **Soft Skills Developed :** Communication, Leadership, Teamwork, Time management, Creativity, Problem-Solving
 - **Hard Skills Developed :** Project Management, Arduino Programming, Socket Programming, Data Management

EXTRA CURRICULAR ACTIVITIES

- **Event Coordinator, DevClub** (May, 2021 - April, 2022) : Orchestrated diverse workshops and hackathons for IIT Delhi's software development community, showcasing adept **teamwork, effective communication, and leadership prowess**
- Achieved **third place** in **Debsoc IIT Delhi's 'Stalwarts'** debate competition, showcasing **impromptu speaking prowess**
- Volunteered at Aarohan, VIDYA, and Jigyasa Teaching **Projects** for teaching underprivileged children with **NSS IIT Delhi**



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IIT COURSE

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B.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	6.94

COURSES DONE

Probability & Stochastic Pro., Discrete Mathematical Structur, Digital Logic & System Design, Introduction To Comp.sc. & Eng, Data Structures And Algorithms, Principles Of Elect. Materials, Fundamentals Of Language Sciences, Signals And Systems, Environmental Science, Product Realization Through Manufacturing, Design Practices, Digital Logic & System Design, Principles Of Artificial Int., An Introduction To Literature, Analysis & Design Of Algorithms, Renewable Energy And Environment, Operating Systems, Computer Architecture, Intro To Automata & Th. Of Co., Climate Modeling, Introduction To Psychology

POSITIONS OF RESPONSIBILITY

- Event Coordinator, DevClub, CAIC (July, 2021 - May, 2022)