SATYAPRAGNYA KAR

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Materials Engineering	Indian Institute of Technology Delhi	8.76
2020	CBSE	D.A.V. Public School, C.S.Pur	97.6%
2018	CBSE	D.A.V. Public School, C.S.Pur	98.8%

SCHOLASTIC ACHIEVEMENTS

- **Department Rank 1:** Highest CGPA amongst the students of the Materials Science and Engg. Department at IIT Delhi
- **IIT Delhi Merit Award:** Awarded the Top 7% Merit Award for being the Top Performer of Department in Semesters-5 & 6
- **Indian National Mathematics Olympiad 2018 and 2019:** Qualified to appear in the **INMO** twice; Among **Top 30** in **RMO**
- **Indian National Chemistry Olympiad 2020:** Qualified to appear in the **INChO 2020**; Among the **Top 1%** in **NSEC 2019**
- **KVPY Fellowship:** Awarded the KVPY Fellowship in 2018 with an **All India Rank** of **151** from amongst 50000 students
- **NTSE Scholar:** Qualified the **National Talent Search Examination 2017-18**, from amongst **9 lakh** appearing students

INTERNSHIPS

- **Ripik.AI, Noida, NCR** (May 2023 - July 2023) : *Machine Learning & Full Stack Engineering Intern*
  - Used **Azure Blob Container** to store images of Cement Kilns in Plants of a leading Cement Client, processing the images to detect the Heat Areas of the Kiln using **OpenCV** and Auto-labelling on the basis of Heat Contour Maps
  - Utilized **Azure Custom Vision** to train on the Auto-labelled images and give prediction on whether the Kiln is Hot, Dusty or Healthy, and also suggest suitable change to the **Coal Feed Rate** to revert the Kiln back to the Healthy state
  - Monitored **ML pipeline** for Seamless CI/CD: prediction feeding to **Django Server on AWS** to render data on **React**
- **Fyzen Career Solutions Pvt Ltd, Tambri, Maharashtra** (June 2022 - July 2022): *Forum for Student-Mentor Interaction*
  - Ideated and Designed a Digital Platform to help connect **Students with Industrial Experts** for Mentoring purposes
  - Implemented full-fledged **CRUD(Create, Read, Update, Delete)** functionality into the Platform using **MERN Stack**

PROJECTS

- **Image Gradient Operator (Prof. Preeti R. Panda)** (August 2023) : *Digital Logic and System Design*
  - Carried out an Image Gradient Operation on a 8-bit Grayscale Image stored in the **RAM**/**ROM** generated by **Vivado**
  - Extracted and Displayed the Vertical Edges in the Image using VGA Displays driven by **VHDL Module** fed into **Basys3**
- **Lunar Lander Simulator (Independent Project)** (May 2023) : *Reinforcement Learning (ML)*
  - Developed a **Deep Q-Learning** facilitated Lunar Lander Simulation with proper **Reward function** and **Discount Factor**
  - Utilized principles of **Reinforcement Learning** with **Tensorflow** and **MSE Cost Function** with Python for Smooth Land
- **Movie Recommender System (Independent Project)** (April 2023) : *Content-Based Filtering (ML)*
  - Utilized **Deep Learning** principles to develop a **Content-Based Filtering Algorithm** to suggest Movies to Users
  - Used the MovieLens dataset, User Watch Histories to create Feature Vectors and **L2-Norm** to assess Compatibility
- **Network Anomaly Detector in Server Computers (Independent Project)** (February 2023) : *Anomaly Detection (ML)*
  - Developed an **Anomaly Detection** algorithm by utilizing Throughput(mbps), Latency of Response(ms), etc. of Servers
  - Fitted a **Gaussian Distribution** to the data and selected a Threshold from the **F1 Score** of CV Set to detect Anomaly
- **Cardiovascular Disease Predictor (Independent Project)** (January 2023) : *XGBoost Algorithm (ML)*
  - Developed an **XGBoost Classifier** that predicts the risk of Cardiovascular diseases in a Patient by taking attributes like Resting Blood Pressure, Cholestrol, Fasting Blood Sugar, etc.; Utilized Cardiovascular Disease dataset from Kaggle
  - Used One-Hot Encoding Technique using **Pandas** for the attributes and tuned the Hyperparams for Reliability of 96.8%
- **Anagram Finder (Prof. Parag Singla)** (April 2022 - May 2022) : *Data Structures and Algorithms*
  - Developed an efficient Anagram Finder program using Java which can find **all possible Anagrams** for a given word
  - Designed by implementing the **Hash Tables** Data Structure along with suitable Collision Resolution to store the words
- **Fast-Food Joint Simulator (Prof. Amit Kumar)** (March 2022 - April 2022) : *Data Structures and Algorithms*
  - Created a Simulation Environment for a hypothetical Fast-Food joint to help improve **Customer Satisfaction Stats**
  - Made effective use of **Heaps** and **Queues** Data Structures to optimize the Simulation time for each data set

POSITIONS OF RESPONSIBILITY

- **Overall Coordinator, Student Incubation Cell (SInC)** (August 2023 - Present) :
  - Pioneering the Establishment of Long-Term Collaborations and Partnerships with **Mentors, Angel Investors and VCs**
  - Planning and Coordinating Startup Bootcamps, Pitching Sessions in collaboration with **FITT** through Strategic Ideation.

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Java, JavaScript, MATLAB, Bash, G-Code; **Tools/Utilities:** Git, LaTeX
- **Frameworks/ Libraries:** Tensorflow, Keras, PyTorch, Scikit-learn, Pandas, MERN Stack, Django, Tailwind, Flutter

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

SATYAPRAGNYA KAR

IIT COURSE

Degree	Institute	CGPA
B.Tech in Materials Engineering	Indian Institute of Technology Delhi	8.76

QUALIFYING EXAM

• **Joint Entrance Examination (JEE) Advanced Rank:** 3002 (GE)

COURSES DONE

Intro. To Electrical Engg., Intro. To Electrical Engg., Intro. To Computer Science, Language & Writing Skill-2, Linear Algebra & Diffe. Equa., Electromagnetic Waves & Qua.mec., Introduction To Chemistry, Calculus, Engineering Mechanics, Engg. Visualization & Comm., Language & Writing Skill, Contemporary Fiction, Introduction To The Thermodynamics Of Materials, Introduction To Materials Science And Engineering, Intro. To Biology For Engineer, Solid Mechanics, Chemistry Laboratory, Introduction To Polymeric Materials, Structure Of Materials, An Introduction To Drama, Characterization Of Materials I, Phase Equilibria And Transformations, Numerical Method S& Computation, Data Structures And Algorithms, Physics Laboratory, Product Realization Through Manufacturing, Intro. To Biology For Engineer, Characterization Of Materials-ii, Electronic, Optical And Magnetic Properties Of Materials, Materials Modelling, Materials Processing, Transport Phenomena, Mechanical Behaviour Of Materials, Environmental Science, Profe. Ethics & Social Resp., Corrosioon And Degradation Of Materials, Functional Materials Lab, Glass And Ceramics, Materials Selection And Design, Math. Methods In Materials Engineering, Mechanical Behavior Of Matrials Lab, Nanostructures And Nanomaterials, Principles Of Metal Extraction, Fundamentals Of Language Sciences

POSITIONS OF RESPONSIBILITY

• Technical Coordinator, RDV'23, BRCA (June, 2022 - May, 2023)
• Coordinator, SInC, OTH (June, 2022 - May, 2023)
• Technical Coordinator, BRCA (June, 2022 - May, 2023)
• Design Coordinator, AeroClub, CAIC (June, 2022 - May, 2023)
• Coordinator, BRCA (June, 2022 - May, 2023)
• Website editor, BSP (June, 2022 - May, 2023)
• Website Executive, BRCA (June, 2022 - May, 2023)
• Executive, Design, BHM (July, 2021 - May, 2022)
• Literati Activity Head, BSP (June, 2022 - May, 2023)
• Sportech Executives, BSA (July, 2021 - May, 2022)

EXTRA CURRICULAR ACTIVITIES

• Member, Maintenance Committee (June, 2023 - June, 2024)
• Participation, Interhostel Wall Painting (July, 2021 - May, 2022)
• Volunteer, Office of Career Services (July, 2021 - May, 2022)