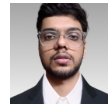




MRIDUL TIWARI



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Engineering and Computational Mechanics	Indian Institute of Technology Delhi	8.88
2020	CBSE	Khel Gaon Public School	93.4
2018	CBSE	Central Academy	92.8

SCHOLASTIC ACHIEVEMENTS

- **IITD Semester Merit Award:** Conferred scholarship in the **third** semester for ranking in the **top 7%** of academic performers (2023)
- **Department Rank 2nd:** Ranked **2nd** out of 43 students of the Applied Mechanics department by the end of 4th semester (2023)
- **Letter of Recommendation:** Conferred by **Prof. V. K. Chalamalla**, commending **exemplary motivation** and **quick learning aptitude** (2023)
- **NTSE:** Awarded a **National scholarship** by Government of India every year to **1000** students among **1.0 million** applicants (2018)
- **Indian Intelligence Test (by Dainik Jagran):** Secured **AIR 1** from a pool of **50000+** students (2018)
- **INJSO & INAO:** Cleared the first stage (**NSEJS**) by performing in the **top 1%** of the region (2017)

INTERNSHIPS

- **Design of Robotic Manipulator for Underwater Applications:** Department of Applied Mechanics, IIT Delhi (April, 2023 - Present)
 - Developed a **prototype robotic arm** with a versatile gripper for efficient manipulation under **Prof. Vamsi K. Chalamalla**
 - Conducted an extensive literature review and examined **20+ industrial** and **underwater** robotic arm variations
 - **Designed** and continually **refined** a robotic arm model using **Solidworks** through iterative **kinematic and dynamic analyses**
 - Striving towards a **specialized robotic arm** for precise manipulation tasks within a **Remotely Operated Vehicle (ROV)** system

PROJECTS

- **Othello Game (Prof. Keerti Choudhary)|Java, Data Structures** (March, 2023 - April, 2023)
 - Developed an intelligent game-playing agent utilizing **k-step look-ahead** and **MiniMax algorithm** for optimal move selection
 - Utilized various data structures such as **linked lists, graphs, and DFS trees** to implement the strategic components
 - Implemented a game simulation function to determine the **winner** based on the initial board state
- **Retention Prediction Model (Coursera Challenge Labs) |Python, Machine Learning** (Dec, 2022)
 - Developed & trained a ML model to address a real-world **consumer retention challenge**, including **dataset encoding and cleaning**
 - Employed the **Scikit-Learn** library to model and trained the dataset using the **RandomForest algorithm**
 - Attained a **68% accuracy level**, successfully completing the challenge and acquiring a **certificate**
- **Stock Price Prediction: Independent Project |Python, Machine Learning** (May, 2023)
 - Utilized advanced machine learning models, such as **RNNs** and **LSTMs**, to predict stock prices by treating stock data as a **time series**
 - Analyzed historical stock price data to identify patterns and trends, enabling accurate and reliable forecasts of future stock prices
- **Image Classification Model: Independent Project |Python, Machine Learning** (Nov 2022 - Dec, 2022)
 - built a **multiclass classification** model using the **MNIST** database to identify the digits from their handwritten images
 - modeled and trained the data using convolution neural networks (**CNNs**) with the help of **TensorFlow** package
- **Snakes and Ladders (Prof. Keerti Choudhary)|Java, Data Structures** (March, 2023)
 - Developed a function that determines optimal moves from the initial board state using **arrays, queues, graphs**, etc data structures
 - Created another function to evaluate changes in optimal moves with added snakes or ladders in **very low time-complexity**
- **Verilog Simulations (Prof. Dhiman Mallick)|Verilog, Digital Electronics** (March, 2023 - April, 2023)
 - Executed the implementation of digital circuits, including a **4-Bit Gray-Code Counter**, **Ring Counter**, and a **Sequence Generator FSM**
 - Utilized **Quartus** software to code, simulate, and conduct complete waveform simulations for finite state machines

TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, Java, Verilog HDL
- **Libraries:** Matplotlib, Scikit-learn, Keras, Pandas, Tensorflow | **Software & Tools:** Github, Autodesk Inventor, Solidworks, MATLAB

POSITIONS OF RESPONSIBILITY

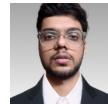
- **Student Representative, Literary Club IITD:** *selected out of 100+ students* (June, 2021- March, 2022)
 - **Fostered** a vibrant literary culture within the institute by **organizing 20+ events** and **workshops**
 - **Incentivized** participation, **guided 100+** freshmen and **managed** the club's library by employing a **library management software**

EXTRA CURRICULAR ACTIVITIES

- **Best Representative:** Awarded the title by BRCA for **exceptional contributions** among **16 club representatives** (2022-23)
- **Technical Executive:** Created an **interactive crossword webpage** | **Tabbing Executive:** Employed a **Perl-based software** (2023)
- **Dare to Dream, DRDO:** **Developed** and **presented** innovative concept for personalized **digital twins of human organs** (March, 2023)
- **Machine Learning:** completed courses on **Supervised Machine Learning** and **Advanced Learning Algorithms** offered by Coursera (2022)



MRIDUL TIWARI



IIT COURSE

Degree

Institute

CGPA

B.Tech in Engineering and Computational Mechanics

Indian Institute of Technology Delhi

8.88

QUALIFYING EXAM

- **Joint Entrance Examination (JEE) Advanced Rank:** 1397 (GE)

COURSES DONE

Engg. Visualization & Comm., Engineering Mechanics, Introduction To Chemistry, Calculus, Language & Writing Skill, Introduction To Materials Science And Engineering, Solid Mechanics, Applied Mathematics For Engineers, Fluid Mechanics, Intro. To Biology For Engineer, Numerical Method S& Computation, Experimental Methods, Data Structures And Algorithms, Digital Electronics, Engineering Thermodynamics, Indian Fiction In English, Environmental Science

POSITIONS OF RESPONSIBILITY

- Hostel Representative, Literary, BRCA (May, 2022 - June, 2023)
- BRCA Rep - Literary, Girnar, BHM (May, 2022 - June, 2023)

EXTRA CURRICULAR ACTIVITIES

- Best Representative, BRCA Awards (July, 2021 - May, 2022)
- Technical Executive, The Cinephile's Crossword (June, 2022 - May, 2023)
- Tabbing Executive, Rendezvous'23: IITD Scrabble Open (June, 2022 - May, 2023)