MOHIT KUMAR GAUTAM



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Engineering and Computational Mechanics	Indian Institute of Technology Delhi	6.11
2023	CBSE	JNV, Lucknow	80.6
2021	CBSE	JNV, Auraiya	87.6

SCHOLASTIC ACHIEVEMENTS

- **Dakshana Scholar** (2021-2023): Cleared the **National Dakshana Selection Test (NDST)** among **10,000+** students
- **Finalist, HMEL Energy Quest 3.0**: Selected among top national participants in this energy challenge (Aug, 2026)
- **FFE Scholar, Foundation for Excellence**: Selected for **merit-based scholarship** for academic excellence (2023 - Present)

INTERNSHIPS

- **Integrated Health Network(ArogyaFirst)** | *Data Science Intern (Remote)* (May, 2026 - July, 2026)
  - Built a **patient no-show prediction model** in **Python** using **6,000+** hospital appointment records across **8** departments
  - Engineered features from **booking lead time**, **prior no-show history**, and **reminder status** using **pandas** and **scikit-learn**
  - Achieved **0.66 ROC-AUC** with **Logistic Regression**, correctly flagging **61%** of patients at risk of missing appointments
  - Evaluated **SMS**/**WhatsApp** reminder interventions, reducing no-show rates by **14.4** percentage points (**35.9% → 21.5%**)
- **Venwiz Technologies** | *Data Science Intern (Remote)* (May, 2025 - June, 2025)
  - Authored **SQL** for **audits** and ad hoc insights; standardized **KPI logic**; automated weekly performance reporting workflows
  - Cleaned **25,000+ vendor records** using **SQL**/**Pandas**; built a **data dictionary** and rules for consistent analytics consumption
  - Built **automated** Power BI **dashboards** and weekly KPIs (**RFQs**, **TAT**, shortlist rate) for real-time monitoring, with alerting

PROJECTS

- **American Express Campus Challenge** || *Python, LightGBM, Optuna, SHAP* (July, 2025)
  - Built a **LightGBM-based** offer personalization pipeline combining **feature engineering**, sampling, and model tuning
  - Engineered 51 features (temporal, behavioral, semantic) and used **5:1 smart negative sampling** for realistic training
  - Tuned the LightGBM model via **Optuna**, systematically boosting **MAP@7** by **+195% (0.180 to 0.531)** over the baseline
- **Agentic AI Fraud Detection System** || *XGBoost, SHAP, FastAPI, Streamlit* (July, 2026 - Aug, 2026)
  - Detected fraud across **284,000+** banking transactions using a **3-agent** pipeline combining ML scoring and LLM investigation
  - Trained an **XGBoost** model with **SHAP** explainability, scoring fraud risk from transaction velocity and spending patterns
  - Deployed a **FastAPI** scoring endpoint and **Streamlit** dashboard, with an **OpenAI** agent automating fraud investigation reporting
- **AI Agent with MCP Tool Integration** || *LangChain, Groq, MCP-Use* (July, 2026 - Aug, 2026)
  - Built an **agentic AI assistant** using **MCP-Use** and **LangChain**, powered by **Groq** for fast, **low-latency** LLM inference
  - Integrated **3+** MCP tool servers (web browsing, file system, Airbnb) enabling flexible **multi-tool** agent workflows
  - Implemented a **30-step** reasoning loop with tool access control, restricting unsafe file and network tools for security
- **PINN for Structural Health Monitoring** || *TensorFlow, Python, Kirchhoff Plate Theory* (Feb, 2026 - Apr, 2026)
  - Built a **PINN** in TensorFlow to solve the **4th-order** Kirchhoff plate equation for accurate structural deflection prediction
  - Designed a **physics-informed loss** enforcing PDE residuals and boundary conditions using automatic differentiation methods
  - Modeled plate bending using 2 input features (x, y), predicting deflection and 3 moment outputs **(Mx, My, Mxy)** accurately
- **Banking Dashboard - End-to-End Data Analysis** || *MySQL, Power BI, SQL, DAX* (Dec, 2024 - Jan, 2025)
  - Identified **strong correlations** between deposits, checking, and savings accounts to surface key customer insights
  - Built a **4-page** interactive **Power BI** dashboard analyzing banking customer data with **24** columns sourced from **MySQL**
  - Performed data cleaning and **EDA**, standardizing categorical variables and creating **income-band** conditional columns

TECHNICAL SKILLS

- **AI/ML Frameworks:** NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, LightGBM, SHAP, LangChain, LangGraph, RAG, NLTK
- **Analytics & Visualization:** MS Office (Excel, PowerPoint), Power BI, Tableau, Matplotlib, Seaborn, Plotly / Dash, Overleaf
- **Programming Languages:** Python, Java, C++, Matlab, SQL || **Developer Tools:** VS Code, Google Colab, Jupyter Notebook
- **Programming & CS Foundations:** Data Structures, Object-Oriented Programming, Competitive Programming, GitHub

EXTRA CURRICULAR ACTIVITIES

- **Sports, Hockey** || *Board for Sports Activities, IIT Delhi*: Won **2** Gold, **1** Silver, and **4** Bronze Medals at Tournaments
  -**National Level:** Represented IIT Delhi **6** times in national level tournaments – Inter IIT, Sportech, Udghosh, and Sangram
  °Secured **1st** in Men's GC and **3rd** overall in Inter IIT General Championship with **150+** member contingent (2024)

POSITIONS OF RESPONSIBILITY

- **Vice Captain, Institute Hockey Team** || *Board for Sports Activities, IIT Delhi* (May, 2025 – Present)

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

MOHIT KUMAR GAUTAM



IIT COURSE

Degree	Institute	CGPA
B.Tech in Engineering and Computational Mechanics	Indian Institute of Technology Delhi	6.11

COURSES DONE

Calculus, Intro. To Computer Science, Intro. To Electrical Engg., Engineering Mechanics, Linear Algebra & Diffe. Equa., Calculus, Applied Mathematics For Engineers, Solid Mechanics, Data Structures And Algorithms, Engineering Thermodynamics, Experimental Methods, Digital Electronics, Numerical Method S& Computation, Introduction To Computational Fluid Dynamics, Introduction To Finite Element Method, Machine Learning In Mechanics, Basics Of Computer Aided Design, Basics Of Product De, Minor Design Project - I

EXTRA CURRICULAR ACTIVITIES

- Production, Fresher's Production - Nadi Kinaare
- Participant, Interhostel Mime Competition
- Event Executive, Inter Hostel Group Dance Competition
- Volunteer, BECON 24
- HOUSE DAY AWARDS, OUTSTANDING CONTRIBUTION IN SPORTS
- 3rd, Hockey, Interhostel General Championship
- Hockey 3rd position, Sportech 26 (January, 2025 - January, 2026)
- Hockey 1st position, Sangram 2025 (January, 2025 - January, 2026)
- 58th Inter IIT Sports Meet Overall Championship 2nd position, Inter IIT Sports Fest (January, 2025 - January, 2026)
- 58th Inter IIT Sports Meet Participant, Inter IIT Sports Fest (January, 2025 - January, 2026)
- 58th Inter IIT Sports Meet Men's General Championship 2nd position, Inter IIT Sports Fest (January, 2025 - January, 2026)
- HOCKEY 3rd position, Inter IIT Sports Fest (January, 2025 - January, 2026)
- Colours, BSA
- Member of the Best Team of the Year - Hockey, BSA
- 2nd Runner up, Sportech 2025, Hockey
- 1st Runner Up, Udghosh'24, Hockey
- Winner, Inter - IIT, Hockey
- 2nd Runner Up, 57th Inter IIT Sports Meet Overall Championship, 57th Inter IIT Sports Meet Overall Championship
- Winner, 57th Inter IIT Sports Meet Men's General Championship, 57th Inter IIT Sports Meet Men's General Championship
- Participant, 57th Inter IIT Sports Meet, 57th Inter IIT Sports Meet
- Colours, BSA
- Member of the Best Team of the Year - Hockey, BSA
- 2nd Runner up, Sportech 2025, Hockey
- 1st Runner Up, Udghosh'24, Hockey
- Winner, Inter - IIT, Hockey
- 2nd Runner Up, 57th Inter IIT Sports Meet Overall Championship, 57th Inter IIT Sports Meet Overall Championship
- Winner, 57th Inter IIT Sports Meet Men's General Championship, 57th Inter IIT Sports Meet Men's General Championship
- Participant, 57th Inter IIT Sports Meet, 57th Inter IIT Sports Meet

POSITIONS OF RESPONSIBILITY

- Vice Captain, Hockey, BSA (April, 2026 - April, 2026)
- Executive, Sportech, BSA (January, 2024 - January, 2025)
- HOCKEY VICE-CAPTAIN, Girnar, BHM (January, 2024 - January, 2025)
- Vice-Captain, Hockey, BSA (January, 2025 - January, 2026)
- Vice-Captain, BSA (January, 2025 - January, 2026)