

MAITREYI TIWARI

Bengaluru, Karnataka

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EDUCATION

Indian Institute of Science

M.Tech - Computational and Data Science CGPA - 8.6

2025 - present

Bengaluru, Karnataka

GB Pant University of Agriculture and Technology

B.Tech - Computer Engineering CGPA - 8.10

2021 - 2025

Pantnagar, Uttarakhand

Cynthia Senior Secondary School

Intermediate - Percentage - 97.2%

2021

Haldwani, Uttarakhand

Cynthia Senior Secondary School

High School - Percentage - 99%

2019

Haldwani, Uttarakhand

COURSEWORK / SKILLS

Machine Learning, Edge-AI, NLP, Operating Systems, Computer Networks, Compiler Design, Linear Algebra, Python, C, C++, SQL, Git, Database Management System (DBMS), Data Structures & Algorithms

PROJECTS

Blood Group Detection using Fingerprints [🔗](#) | Tensorflow, OpenCV, Machine Learning June 2025

- Developed a Convolutional Neural Network (CNN) to predict human blood groups from fingerprint images using supervised learning techniques.
- Used OpenCV for preprocessing fingerprint images. This included reducing noise and improving contrast to increase model accuracy.
- Introduced a new, non-invasive method for identifying health information by using biometric patterns for medical diagnostics.

Content-Based Movie Recommendation System | Python, NLP, Scikit-learn

- Developed a content-based movie recommendation system using the TMDB dataset of 5,000+ movies, leveraging CountVectorizer and cosine similarity to generate recommendations based on genres, keywords, cast, crew, and plot.
- Built an end-to-end NLP pipeline involving JSON data handling, text preprocessing with Porter Stemmer, feature engineering, and similarity matrix computation to generate semantically relevant movie recommendations.

Binary Sentiment Analyzer for Tweets | Python, NLTK, Scikit-learn, Logistic Regression

- Developed a binary sentiment classifier using Logistic Regression on 1.6 million tweets from the Sentiment140 dataset to classify tweets as positive or negative.
- Implemented text preprocessing using regular expression cleaning, stemming, stopword removal, and TF-IDF vectorization, achieving 78–79% accuracy on both training and testing datasets with balanced classes.

Credit Card Fraud Detection | Python, Scikit-learn, Random Forest, SMOTE

- Developed and compared Logistic Regression, Decision Tree, and Random Forest classifiers for credit card fraud detection on a highly imbalanced dataset with a 0.17% fraud rate.
- Implemented data preprocessing and class balancing using StandardScaler, duplicate removal, and SMOTE, and evaluated models using Accuracy, Precision, Recall, F1-score, and ROC-AUC.

INTERNSHIP

Honeywell Technologies

05-2026 – 08-2026

AI Intern

Bengaluru

- Developed an AI-driven pipeline to transform complex, highly normalized Building Management System (BMS) schemas into optimized denormalized views, reducing runtime joins and aggregations for downstream AI querying.
- Built a semantic knowledge layer using Neo4j to capture business definitions, relationships, rules, and enum mappings, enabling domain-grounded Text-to-SQL generation.
- Developed a resource-efficient Text-to-SQL system using Gemma-2-9B-IT fine-tuned with QLoRA, incorporating semantic retrieval, SQL validation, error repair, and candidate voting.
- Achieved 80% overall SQL accuracy and 96% execution success across 50 real operator queries, with 95% accuracy on Tier 1–2 queries, while running the 9B model on a single GPU at ~15 seconds end-to-end latency.

National Informatics Centre Services Inc.

01-07-2024 – 09-08-2024

Machine Learning Intern

Delhi

- Developed a real-time object counting system that identifies individuals within predefined zones of interest in a video feed.
- It aimed to manage and monitor population density for enhancing safety, preventing casualties, resource optimization, and enhancing user experiences

Bharat Sanchar Nigam Ltd.

25-07-2022 – 08-08-2022

Network and Cyber Security Trainee

Ghaziabad

- Completed a two-week training on Cyber Security and Networking at ALTTC. I gained both theoretical and practical knowledge about LAN infrastructure, AAA security protocols, and network management components like routers, switches, and proxy servers.

ACHIEVEMENTS

GATE 2025: Secured **99.66 percentile** in the Computer Science Engineering discipline with a GATE score of 761.

IISc-Mallika Women MTech Fellowships: Awarded the prestigious fellowship for academic excellence and research potential.

EXTRACURRICULAR

Serving student representative in Gymkhana Students Affair committee - IISc – 2026, Bengaluru, Karnataka

EECS Sports Meet Basketball Tournament – Player

2025, Bengaluru, Karnataka

* Won a **Silver Medal** representing the Department of CDS.

Interface: Branch Chapter of CSE  – Technical Head

2022 – 2025, Pantnagar, Uttarakhand

* Organized events like PC gaming, coding competitions, and chess for the Computer Engineering Department.

National Service Scheme (NSS) – Member

2022 – 2024, Pantnagar, Uttarakhand

* Contributed to community service initiatives and social awareness programs.

CERTIFICATIONS

- Data Science, Machine Learning, Deep Learning- Udemy
- Data Analysis - Udemy