



Tumma Saichandana

Roll No.:B23EE1077

B-Tech

Electrical Engineering

Indian Institute of Technology Jodhpur

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GitHub

Portfolio

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. (EE)	Indian Institute of Technology,Jodhpur	7.26(Till 6th sem)	2023-2027
Senior Secondary	Telangana State Board (TSBIE)	98.3%	2023
Secondary	Telangana Secondary School Certificate(SSC)	10 GPA	2020

PROJECTS

- **Drishti: Adaptive Multi-Weather Preprocessing for Object Detection** Mar 2026–Apr 2026
Developed a **computer vision pipeline** to improve object detection under adverse weather conditions (fog, low-light). Designed a **modular pipeline** including weather classification, condition-specific enhancement (CLAHE, gamma correction), and YOLOv8-based detection. Achieved significant performance gains with +0.32 mAP@0.5 on RTTS and +0.25 on ExDark datasets. **Handled real-world challenges** such as low contrast and noise using adaptive enhancement techniques. GitHub
- **Spectral-Spatial Hyperspectral Image Classification** Dec 2025
Developed a hyperspectral image classification pipeline for pixel-wise land-cover mapping using the Indian Pines dataset. Implemented spectral and spectral-spatial approaches using PCA and SVM, incorporating neighborhood-based feature fusion to improve **balanced accuracy and macro F1-score**. Generated full-scene classification maps and performed quantitative and visual evaluation. GitHub
–**Techniques used:** PCA, SVM, KNN, spectral-spatial neighborhood fusion, class imbalance handling
- **Pattern Search Analysis Tools** Sept 2024–Nov 2024
Implemented and benchmarked classical string matching algorithms including Naive, KMP, Rabin-Karp, Boyer-Moore, Aho-Corasick, and DFA-based matching. Designed a backend system to analyze time and space complexity across varying input sizes, enabling comparative evaluation of algorithm efficiency through structured experimentation. GitHub
–**Tools & technologies used:** C++, HTML, JavaScript, Bootstrap, Chart.js, Python (Flask)

KEY COURSES TAKEN

• Data Structures and Algorithms • Pattern Recognition and Machine Learning • Computer Vision • Machine Learning for Communications • Introduction to Computer Science • Embedded Systems • Signals and Systems • Probability Statistics and Stochastic Process • Communication Systems • Analog Circuits • Circuit Theory • Digital Signal Processing

CODING PROFILES

LeetCode: Chandana1077 • Practiced Data Structures and Algorithms problems focusing on arrays, graphs, trees,stacks ,queues,dynamic programming, trees, greedy algorithmss.

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, JavaScript, SQL, C, HTML, CSS
- **Machine Learning & AI:** PyTorch, scikit-learn, OpenCV, NumPy, Pandas, Matplotlib, YOLOv8, CNNs, Predictive Modeling, Computer Vision
- **Core Computer Science:** Data Structures and Algorithms, Object-Oriented Programming, DBMS, Operating Systems, Computer Networks,Software Development Life Cycle (SDLC), Debugging, Problem Solving
- **Web & Backend:** Flask, REST API Development, Streamlit, Bootstrap, Client-Server Architecture
- **Tools & Platforms:** Git, GitHub, Jupyter Notebook, Google Colab, MATLAB, VS Code, Collaborative Development Workflow

ACHIEVEMENTS

- **JEE Advanced** Rank: 3765 (OBC-NCL) 2023
- **JEE Mains** Secured 99.07 Percentile 2023
- **TS EAMCET Rank** 2284 2023
- **Scored 80+ Marks out of 100 with 99.83 percentile in JEE Mains Mathematics** 2023
- **Medha Sampurna Siksha Scholarship** Received a full scholarship from Medha Servo 2021-2027
Drives Charitable Trust for education from Class 11 till graduation completion