

SUGALI VENKATASAI TEJA

Roll No: EE23B107 — Indian Institute of Technology Madras



EDUCATION

Program	Institute	%/CGPA	Year
B.Tech (Electrical Engineering)	IIT Madras	8.15	2027
Class XII	Sri Chaitanya Intermediate College	94.15%	2023
Class X	Sri Chaitanya Techno School	100%	2021

SCHOLASTIC ACHIEVEMENTS

- **JEE Mains 2023:** Secured top **0.66%** nationwide rank among **1 million+** candidates.
- **JEE Advanced 2023:** Attained rank within top **7.76%** of qualified aspirants.
- **TS-EAMCET 2023:** Achieved State Merit Rank **2,887** among **260,000+** candidates.
- **NTSE:** Qualified Stage 1 with distinction; recognized for proficiency in Logical Reasoning.

SKILLS

- **Languages:** C, C++, Python, SQL, HTML, CSS, JavaScript (Basic), React (Medium).
- **Tools/Frameworks:** Numpy, Pandas, Matplotlib, SciPy, Seaborn, Git, GitHub, MATLAB, LTSpice.
- **Core Skills:** Data Structures & Algorithms, Artificial Intelligence, Machine Learning.

COURSEWORK

- Applied Programming Lab
- Introduction to Programming
- Computer Organisation
- Machine Learning Foundations
- Signals and Systems
- Electric Circuits & Networks
- Series and Matrices
- Analog Systems and Lab
- Digital Signal Processing
- Microprocessors Theory
- Differential Equations
- Digital Systems and Lab

PROJECTS

Diabetes Prediction System (Machine Learning)

- Developed a robust classification pipeline using **Deep Learning (MLP)** and **K-Nearest Neighbors**.
- Achieved a peak test accuracy of **80.2%** by implementing **StandardScaler** for data normalization and optimizing model hyperparameters.
- Analyzed feature importance using **Decision Trees**, identifying Glucose levels and BMI as the primary risk factors.

Stock Price Prediction System (Deep Learning)

- Developed a time-series forecasting model using **Long Short-Term Memory (LSTM)** neural networks to predict future stock trends.
- Processed historical financial data using **Pandas** and implemented **MinMax scaling** to normalize stock prices for improved model convergence.
- Achieved a reliable prediction accuracy (low **RMSE**) and visualized the comparative analysis of actual vs. predicted prices using **Matplotlib**.

Advanced ML Customer Prediction System

- Developed a high-accuracy pipeline using **XGBoost**, **CatBoost**, and **LightGBM** (85% accuracy, 0.83 F1-score).
- Engineered 60+ features and used **Optuna-based tuning**, boosting performance by 17% and reducing false positives.

Applied Programming Lab Project (EE2703)

- Developed a custom **SPICE circuit solver** in Python, using Modified Nodal Analysis (MNA).
- Engineered an optimal keyboard layout algorithm using **Simulated Annealing** to improve typing efficiency.
- Implemented an efficient **Delay and Sum (DAS) algorithm** in Python for image reconstruction.
- Used **Cython** to optimize Python code, achieving 104x better performance.

POSITIONS OF RESPONSIBILITY & EXTRACURRICULARS

Shaastra (2024) Design Club, Coordinator

July 2024 - Jan 2025

- Designed posters for events and promotions for Shaastra 2025 (IIT Madras), producing visual assets and branding.
- Gained valuable skills in making posters using Canva and Adobe through Design Club involvement.

Extracurriculars

- **NSO:** Completed National Sports Organisation (Hockey) training program at IITM.
- **Sports:** Active participant in EEA Cricket Tournaments; pursues cricket as a leisure sport.