Vankunavath Sridhar || Electrical Engineering || EE22B079

**INDIAN INSTITUTE OF TECHNOLOGY, MADRAS**

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| **EDUCATION** | | | | | | | |
| **PROGRAM** | | | **INSTITUTE** | | | **CGPA/**  **%** | **COMPLETION** |
| BTech in Electrical Engineering | | | Indian Institute of Technology,  Madras | | | [6.31/10](https://drive.google.com/file/d/1EGpfsvrwbqQA9UfKX3mPbdJuJAzLUp9T/view?usp=drive_link) | 2026 |
| XII  (Board of intermediate education, Telanagana) | | | Sri Chaitanya Jr Collage,  Hyderabad | | | [95.7%](https://drive.google.com/file/d/1OUMEIiboV7m51fRxVpd4Q0WcjOVzfHIu/view?usp=drive_link) | 2022 |
| X  (Board of secondary education,Telangana) | | | Sri Chaitanya High School , Nalgonda | | | [100%](https://drive.google.com/file/d/1rmnCIFrjx7gxwZWT5Mp_gmQ24SeQ8bcA/view?usp=drive_link) | 2020 |
| **SCHOLASTIC ACHIEVEMENTS** | * Secured All India Rank (AIR) of 21057 (Category-rank [190](https://drive.google.com/file/d/1EGpfsvrwbqQA9UfKX3mPbdJuJAzLUp9T/view?usp=drive_link)) in **JEE ADVANCED 2022** (out of 1.6 Lakhs + aspirants). * Secured a percentile of 91.7 in the first attempt, achieving All India Rank (AIR) of 73717 ( Category-rank [726](https://drive.google.com/file/d/14nyWXYOSVNd3M3T6G-c6vpcPZLYuPM6X/view?usp=drive_link)) in **JEE MAINS 2022** (out of 1 Million + aspirants). | | | | | | |
| **RELEVANT COURSES** | | | | | | | |
| Signals and Systems | | Digital Systems and Lab | | | Microprocessor Theory and Lab | | |
| Electric Circuits and Networks | | Analog Systems and Lab | | | Digital Signal Processing. | | |
| Electrical Probability foundations | | Electric Machines and Lab | | | Introduction to programming in C | | |
| Functions of Multi Variables | | Series and Matrices | | | Neural Networks and Deep Learning\* | | |
| Supervised Machine Learning\* | | Data Structures and Algorithms\* | | | Principles of Economics | | |
| Solid State Devices | | Engineering Electromagnetics | | | Applied Programming in Python. | | |
| **SKILLS** | | | | | | | |
| **Programming Languages** | C, C++, Python (libraries: NumPy, Cython, Matplotlib) | | | **Hardware Programming Languages** | | Basic Verilog (HDL), AVR, ARM(AssemblyLanguages),  Arduino IDE. | |
| **Softwares** | LT Spice, Xilinx, Keil u vision, Atmel Studio (Microchip Studio), Labview, Simulink, TinkertCAD | | | | | | |
| COURSE PROJECTS | | | | | | | |
| **Analog systems and lab (EE2019):**  (Jan - May 2024) | * Built a **power stage** that uses a pulse width modulated signal generated from **a PWM Modulator** as an input todrive **a LC Low Pass Filter** through **power MOSFETs**. * Used the Low Pass Filter output for **switching LED drivers** with **Type I Compensator**. * Designed a composite Analog system for **synchronized light and sound** that is built using **a DC-DC converterbased LED Driver**, Bandpass Filters, Peak Detector and Class D Amplifier. | | | | | | |
| **Micro controller Programming (EE2016):**  (July - Nov 2023) | * Implemented **Booth's algorithm** and **various arithmetic operations** using Verilog (HDL) in Xilinx software. * Developed assembly language programs in **AVR** and **ARM** architectures on **Atmel Atmega8** microcontrollerusing Atmel Studio. * Demonstrated **interrupt handling and timer usage** for **AVR** microcontrollers as simulations in Atmel Studio. * Utilized Keil u Vision IDE to program **LPC2378 microcontroller** in C language, accomplishing **basicarithmetic operations, stepper motor control, byte disassembly and Analog-to-digital conversion.** | | | | | | |
| **Traffic Signal Counter (EE2001):**  (May - July 2022) | * Designed a circuit **for 4-bit binary to BCD conversion** which displays the result on   **two seven segmentdisplays**.   * Designed a **traffic signal counter using 555 Timer**, seven segment displays and previously built binary to BCDconverter. | | | | | | |
| **Electric Machines Lab(EE2005):**  (Jan – May 2024) | * Performed Experiments on **Transformers, Induction Machines, DC Machines and Synchronous Machines**   and obtained **Magnetic parameters and Leakage parameters**.   * Used **Labview software** to get data from **DAQ assistant** and analysed **the voltage**   **,current and powercharacteristics** | | | | | | |

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| **Applied Programming Lab(EE2703):**  (July - Nov 2023) | * Implemented **a Spice simulator** using **MNA(Modified nodal analysis**) matrix method with   **Numpy** by utilizing  **Gaussian elimination method** and optimized its performance using **Cython**.   * Created **combinational digital circuit solver** with **NetworkX** library using **topological sort** as well **as eventdriven approach.** * Developed an animation involving multiple polygons using python by converting one polygon |
| image into anotherby **using Morphing**.   * Used **a Curve fitting** and **least square function method** to predict any known function's unknown coefficients. * Used **gradient descent algorithm** to analyze the minimum of a function of any order. |
| **Machine learning *Self Project***  **(Summer 2024)** | * Developed a **deep learning model** to predict the type of **brain tumour** by taking image of **MRI**   report from the user.   * **normaliza Pre-processed** a dataset of images, performing tasks such as Normalizing and **resizing**   to prepare the data for analysis.   * Implemented a **ConvoluƟ onal Neural Network (CNN)** to train on the pre-processed training data and evaluated its performance by making predictions on the testing set. **Web deployment** done with Stream lit . |
| **Image Classifier** |
| **Deep learning**  ***Self Project* (Summer 2024) Brain Tumour Classification** | * **Developed** an advanced image classifier leveraging **machine learning techniques** to distinguish between **AI-generated and real images.** * Designed a model architecture featuring **4 convolutional neural network (CNN) layers** with   **filters, dropout**, and **max-pooling, along with 3 dense layers.**   * Achieved an impressive **F1-Score** of **0.94** for both AI-generated and real image classes on the test dataset. |
| POSITION OF RESPONSIBILITY  Sports Secretary,Sports Organizing Committee (SOC), FR Hospital and Outreach Coordinator | |
| **COORDINATOR**  (July’23- Apr’24) | * Coordinated events like Gymkhana Day, Club weekenders, Beginner sessions, Speakathlon, collaborated with Events and Other club * Managed Screening of various sports events in OAT with food stalls and coordinated the Schroeter and Dean’s Trophy with over 20 events |
|  | EXTRA-CURRICULAR ACTIVITIES |
| **Sports** | * Got selected for the **35-member** NSO program from among more than **100+ participants.** * Was part of the dedicated **45 days** NSO programme for enhancing the **Athletes Skills** of IITM students. * Participated in **EEA VolleyBall Tournament 2024 and placed Third.** * Participated in **EEA Cricket Tournament 2023.** |

*\*- Courses Yet to done*