LINGALA SAI SRI VARDHAN REDDY | 23EC10038

Indian Institute of Technology Kharagpur

EDUCATION

Year	Degree/Exam	Institute	CGPA/Percentage
2027	B.Tech, Electronics and Electrical Communication Engineering	Indian Institute of Technology Kharagpur	8.44
2023	Board of Intermediate Education, Telangana	Narayana Junior College, Hyderabad	96.4%
2021	Board of Secondary Education (SSC), Andhra Pradesh	Dr. K.K.R.'s Gowtham High School, Gudivada	10/10

INTERNSHIPS AND PROJECTS

Smart Water Quality Monitoring System| Team Project | DIY   Oct'23 - Nov'23   Prof. Vikranth Racherla
○ Developed an **Arduino-based system** to monitor water temperature and TDS using **DS18B20** and **Grove TDS sensors**.
○ Displayed real-time data on a **16x2 LCD** and integrated a **mobile app** for live monitoring.
○ Implemented **IoT connectivity** for future cloud integration and water quality alerts.

Current Mirror circuit , Differential Amplifier, and Phase-Shift Oscillator   Oct'24 - Nov'24   Prof. Gourab Dutta
○ Designed a **Current Mirror** and verified results through simulation.
○ Developed a **Differential Amplifier** with minimal common-mode voltage gain.
○ Constructed a **Phase-shift Oscillator** and compared theoretical and measured oscillation frequencies.

Hex Keypad -Based RAM Data Management System   Feb'25 - Mar'25   Prof. Indrajit Chakraborti
○ Developed a **4-bit data storage system** using a hex keypad, **Tri-state buffer (IC 74125)**, and **RAM (IC 2114)**.
○ Configured a **multiplexer (IC 74157)** for efficient toggling between Read/Write modes.
○ Implemented sequential memory addressing with an **address counter (IC 7490)**.
○ Integrated dual **7-segment displays (IC 7447)** for real-time data and address visualization.

Single-Digit Calculator using Binary Logic and TTL ICs   Feb'25 - Mar'25   Prof. Indrajit Chakraborti
○ Utilized **74273 latch registers** for input storage, **7486 XOR gates** for 2's complement-based subtraction, and a **7483 4-bit adder** for arithmetic computation.
○ Converted binary output to **BCD format** and displayed results using a **7447 BCD-to-7-segment decoder** and **LT542 display**, supporting a range from **-9 to 19**.

12-Hour Digital Clock System   Apr'25-May'25
○ Designed a **12-hour clock** system using **IC 7447**, **IC 7490**, **IC 7493**, and **LT542.**
○ **Developed a seamless 12-hour time display** with **7-segment displays**, featuring precise **AM/PM switching logic** for enhanced functionality.

SKILLS AND EXPERTISE

○ **Programming Languages:** Python, C++, C, Embedded C, HTML, CSS, JavaScript.
○ **Frameworks and Libraries:** Pandas, OpenCV, TensorFlow, PyTorch, Scikit-learn, Seaborn.
○ **Software Tools :** LTSpiceXVII, Verilog, MATLAB, Proteus, Git, Linux , Arduino.

COURSEWORK INFORMATION

Electrical and Electronics Courses :
- Electrical Technology
- Network Theory*
- Semiconductor Devices*
- Analog Electronic Circuits*
- Digital Electronic Circuits*
- Electromagnetic Engineering
- Signals and Systems
- Systems and Control

Programming and Mathematics Courses :
- Advanced Calculus
- Programming and Data Structures*
- Linear Algebra, Numerical and Complex Analysis
- Advanced Calculus
- Optimization Models
- Probability and Statistics

The courses marked* include lab components as well.

POSITIONS OF RESPONSIBILITY

Student Satellite Program|Electronics Team Member   March'25 – Present
○Actively engaged in designing and testing onboard electronics for **AvinyaSat-1, IIT Kharagpur's first CubeSat**.

AWARDS AND ACHIEVEMENTS

○ Secured **All India Rank of 1666** in **JEE MAINS 2023** among 1.1 million students (top 0.1% percentile) .
○ Secured **All India Rank of 1838** in **JEE ADVANCED 2023** among 200,000 students (top 0.5% percentile) .

EXTRA CURRICULAR ACTIVITIES

○ Member of National Spots Organisation Health and Fitness | IIT Kharagpur   Aug'23 - Jan'25
○ Promoted healthy living and participated inactivities like Swachh Bharat and disaster awareness campaigns