



Manikanta Gonugondla

Electrical & Electronics Engineer

I am an Electrical & Electronics Engineer with advanced expertise in hardware-software integration. Skilled in designing electronic circuits, programming microcontrollers, and deploying machine learning for smart devices, I excel in innovative solutions. Proficient with tools like Analog Discovery 3, ADALM 1000, and Raspberry Pi, I've led impactful projects, including advanced security systems, YOLO-based person detection with Hailo AI, and complex circuit analysis for amplifiers and MOSFETs.

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❖ SKILLS

C Verilog System Verilog Linux Python Embedded C Digital And Analog Electronics
Circuit Analysis & Design Simulink LT Spice MATLAB Simulink NI Lab View

❖ EDUCATION

BTech in Electrical & Electronics

Manipal Institute of Technology

07/2023 - 09

8.07 CGPA Till 4th Sem

Mini Projects

◊ Smart Parking System with FPGA

◊ Rain Detection Alert System

BS in Electronic Systems

Indian Institute of Technology Madras

07/2023 - 09

7.33 CGPA Till 5th Sem

Mini Projects

◊ Developed own 7447 IC with BJT and Logic Gates for '0' to '15' Binary to Decimal Counter

❖ LANGUAGES

Telugu
Native or Bilingual Proficiency

English
Full Professional Proficiency

Hindi
Professional Working Proficiency

❖ ACHIEVEMENTS

Gadget Expo - 1st Place (01/2025 - 01/2025)

Created an intelligent home security system featuring real-time AI-based object detection, multithreaded processing, and hardware integration for automated alerts and continuous monitoring.

❖ PERSONAL PROJECTS

A SYSTEM AND METHOD FOR NON-INVASIVE REAL-TIME DETECTION OF PATIENT COLLAPSE USING MULTI-MODAL VITAL MONITORING (02/2025 - 09)

◊ The present invention relates to the field of biomedical signal monitoring and wearable health technologies. More specifically, the invention relates to the field of non-invasive, real-time vital sign detection and early collapse identification using multi-modal sensor fusion.
◊ Filed a Patent on the Idea and the prototype is in development.

❖ PERSONAL PROJECTS

Active Battery Cell Equalization System for Electric Vehicle applications (09/2025 - 10/2025)

- ◊ The system addresses the critical challenge of **cell voltage imbalance in series-connected lithium-ion battery packs** through flyback converter topology enabling bidirectional energy transfer between cells.
- ◊ This active balancing approach **extends battery lifespan by 20-30%**.

ACTIVE SUSPENSION SYSTEM Design and Performance Analysis (09/2025 - 10/2025)

- ◊ The study compares the performance of passive and active suspension configurations using a **quarter-car model**.
- ◊ A **Proportional-Integral-Derivative (PID)** controller is designed to actively control the suspension forces, aiming to improve ride comfort and handling characteristics.
- ◊ Simulation results demonstrate that the active suspension system achieves significant improvements in vibration isolation, with a peak **magnitude reduction of 15.24 dB** compared to the passive system.

❖ WORK EXPERIENCE

Summer School Participant - Product Development Management

International Institute of Information Technology, Hyderabad

06/2024 - 07/2024

Hyderabad, India

Achievements/Tasks

- ◊ Completed intensive summer school program on Product Development Management
- ◊ Gained exposure to industry-standard product development methodologies and practices
- ◊ Participated in workshops covering product lifecycle, market analysis, and innovation strategies

Contact : - Prof. Raghu Reddy Chair, M.Tech in Product Design & Management, IIITH

Project Intern

Apsis Solutions & IIT Guwahati

07/2025 - 09/2025

Bangalore, India

IT solutions & consulting company since 2006, leading solution provider for FMCG, Banking, Financial, Supply chain & Telecom industries.

Achievements/Tasks

- ◊ Selected for project-based IoT mentorship internship program
- ◊ Worked on IoT solutions and mentorship responsibilities
- ◊ Collaborated remotely on innovative technology projects
- ◊ Gained hands-on experience in IoT development and implementation

Contact : - Neha Sharma - HR Manager - care@1stop.ai

Project Intern

Mindenious Edutech

07/2025 - 09/2025

Bangalore, India

Educational technology platform bridging classroom theory & industry needs through internships, career guidance & mentorship programs.

Achievements/Tasks

- ◊ Completed comprehensive Very Large Scale Integration (VLSI) design training program
- ◊ Developed test benches for FPGA validation
- ◊ Created comprehensive test cases for digital circuit validation
- ◊ Developing skills in RTL design, verification, synthesis concepts, and FPGA implementation
- ◊ Building expertise in ASIC design flow and semiconductor fabrication processes

Contact : support@mindenious.com