



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.

✉ mgonugondlamanikanta@gmail.com

📍 Hyderabad, India

🐙 github.com/Manikanta25055

📞 8331901122

🌐 helicanexplanations.wordpress.com

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