

HEMANTH MADU

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PROFESSIONAL SUMMARY

Results-oriented Computer Science Engineer (B.Tech) with hands-on internship experience in **Embedded Systems** and **C/Python** development. Proven proficiency in **C programming**, **Linux**, **Data Structures & Algorithms (DSA)**, and **Object-Oriented Programming (OOP)**. Eager to leverage technical expertise in **multi-threaded** environments and communication protocols to contribute effectively to complex, **distributed architecture systems**.

Technical Skills

- **Programming & Core:** C, Embedded C, Python, Data Structures and Algorithms (DSA), Object-Oriented Programming (OOP), Linked List.
 - **Operating Systems & System Concepts:** Linux, RTOS (Knowledge of), Multi-threaded Request Handling (demonstrating concurrency), Embedded Systems.
 - **Hardware & Tools:** Microcontrollers, ESP32, Git & GitHub, VS Code, Automation Scripts.
 - **Networking & Databases:** MySQL, HTML/CSS/JavaScript, IoT Solutions, Communication Protocols.
 - **Security & Diagnostics:** Debugging, End-to-end Encryption, Ciphertext-Policy Attribute-Based Encryption (CP-ABE), Cyber Security Fundamentals.
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Professional Experience

Intern / Bitsilica Private Limited

June 2025 – Present

- Developed and **debugged firmware** for **microcontroller-based projects** (ESP32) using **C** and **Python**, gaining hands-on embedded systems experience.
 - Designed and implemented **IoT solutions** for real-time monitoring and data collection, including integration of **GSM and GPS modules** for automated data transmission.
 - Wrote **Python automation scripts** to streamline testing, data logging, and development workflows, improving efficiency.
 - Applied **Object-Oriented Programming (OOP)** and **Data Structures (DSA)** to write efficient and maintainable code in the software development lifecycle.
 - Gained practical expertise in **Embedded C, Linux, RTOS** concepts, and industry version control practices (Git).
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Projects

Web Cloud Data Storage System

Java (J2EE), JSP, Servlets, JavaScript, MySQL

- Architected a secure, scalable platform, implementing **Ciphertext-Policy Attribute-Based Encryption (CP-ABE)** to enhance data security and reduce unauthorized access by **95%**.

- Optimized system performance by **30%** through the implementation of **multi-threaded request handling**, demonstrating concurrency principles crucial for **multi-process environments**.

Interactive Quiz Application

Node.js, Express.js, MongoDB, JavaScript

- Engineered a real-time platform, optimizing the database schema and queries to reduce data retrieval response time by **40%**.
 - Utilized **MongoDB** for efficient, scalable data management, demonstrating expertise in building resilient backend architectures.
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Education

Bachelor of Technology (B.Tech) in Computer Science and Engineering

PACE Institute of Technology & Sciences, Ongole, Andhra Pradesh

September 2021 - May 2025 | CGPA: 8.63/10 14

Certifications

- Introduction to Internet of Things (IoT)** - NPTEL (Apr 2024)
 - PCAP: Programming Essentials in Python** - Cisco (Mar 2023)
 - Cyber Security Virtual Internship** - EduSkills / Palo Alto Networks (Feb 2023)
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Leadership & Professional Abilities

- Leadership & Teamwork:** Chair of the ACM Student Chapter, directing technical initiatives, organizing events, and leading teams to foster a collaborative learning environment.
- Problem-Solving & Critical Thinking:** Demonstrated strong analytical skills in implementing complex encryption mechanisms and optimizing system performance.