

Sanjit Mittapalli

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Education

Vellore Institute of Technology, Vellore

2021 – 2025

Bachelor of Technology in Computer Science and Engineering

Experience

Aspire Systems

Sep 2023 – Dec 2023

Trainee Intern (Remote)

- Gained foundational exposure to AWS services like EC2, S3, RDS, Lambda, IAM, and VPC.
- Assisted in designing and deploying scalable cloud solutions using AWS best practices.
- Studied AWS Well-Architected Framework for performance, security, and cost optimization.
- Automated AWS processes using Python, enhancing operational efficiency.

Projects

AI-Driven Edge Device Security System | YOLOv5, Python, OpenCV, LLMs, Edge Computing

- Developed a real-time surveillance system with YOLO-based object detection, processing 30 FPS on edge devices with 94% accuracy.
- Used LLMs to generate contextual scene descriptions within 5 seconds per frame for enhanced situational awareness.
- Reduced false positives and improved response times through sentiment analysis and optimized dataset preprocessing.

Bookbot – Text Analysis Tool | Python

- Created a Python-based text analysis app that reads large literary texts and generates categorized statistical summaries.
- Designed algorithms for parsing, categorizing, and analyzing linguistic features efficiently using file I/O operations.
- Built a command-line reporting interface to present results in a structured format.
- **GitHub:** github.com/Sanjit-M/bookbot

Puddle Chat – Chat Application with LLM Integration | Python, Flask, Socket.IO, HTML, CSS, JavaScript, Ollama

- Developed a real-time web chat app with individual and group chat capabilities using Flask and Socket.IO.
- Integrated a locally hosted LLM via Ollama for AI-generated replies, supporting low-latency inference without internet access.
- Implemented a responsive frontend and local message rendering system for enhanced user interaction.
- **GitHub:** github.com/Sanjit-M/Puddle_chat

Technical Skills

Languages: Python, JavaScript, HTML, CSS, SQL

Frameworks/Libraries: Flask (basic), Express.js, Node.js, RESTful APIs

Databases: MongoDB, PostgreSQL, MySQL, Redis

Cloud Tools: AWS, Render

Tools: Git, GitHub, Docker

Operating Systems: Linux, Windows

Concepts: RESTful API Design, Data Structures, Algorithms, Database Design