Sanjay Ganapathy Viswanathan

createcomsanjay@gmail.com |+91 8610060832| https://www.linkedin.com/in/sanjayg11 |
https://github.com/SanjayCreator11

Executive Summary

I bring a dynamic combination of technical expertise, innovation, and collaboration. With hands-on experience in designing IoT-based systems, AI-integrated edge computing solutions, automation technologies, and cross-platform applications, I specialize at the intersection of Electronics and Computer Science. In my recent project, I developed a smart industrial prototype integrating AI models (YOLO, MiDaS) with ToF sensors, optimized through RTOS scheduling, efficient power management, and real-time sensor fusion. I have applied Python, C++, Embedded Systems, TensorRT, Virtualization, and Git/GitHub version control to build scalable, reliable, and sustainable technologies.

Education

SRM Institute of Science and Technology, Kattankulathur, Chennai **Aug 2024 - Aug 2028**

Degree : B.Tech Major: Electrical and Electronics | Semester 2 – (CGPA – 9.72 /10)

Grade 12 - Central Board of Secondary Education **Apr 2022 - Apr 2024**

82% [English – 92 | Computer Science – 87 | Math – 86]

Projects

Agri Apptoid (Node MCU, Temperature, Humidity, Moisture Sensor,C++, Tkinter) **Jun 2023 -**

- IoT-Based Agricultural Monitoring System: Developed a real-time environmental monitoring system using Node MCU(Wifi SoC) with integrated temperature, humidity, and moisture sensors to gather and transmit farming data. This system enhances data-driven farming techniques by providing actionable insights for farmers.
- E-Commerce Platform Integration: Created software integrated with the IoT hardware, enabling users to remotely monitor crop conditions and facilitating direct sales from farmers. This platform streamlines the supply chain, improves market efficiency, and introduces a novel business model for agriculture.

BookWise Library RDBMS(Python and MySQL) **May 2024 -**

- "BookWise" Library Management Solution: Implemented BookWise, a robust management system for library using Python and MySQL. Utilized mysql.connector, datetime, and tabulate libraries to streamline and optimize library operations, improving overall organization and accessibility.
- Implemented dynamic CRUD operations, with search function, and real-time tracking for efficient book management and availability monitoring.

Panda File Transfer Protocol (Python and Socket) **Feb 2023 -**

- Developed Panda File Transfer Protocol using Python socket programming, implemented multi-threading and AES-256 encryption for secure, real-time file transfer across platforms, ensuring data integrity and confidentiality.
- Cross-Platform Compatibility and User Interface: Developed a GUI with automated key exchange, network stability features, ensuring smooth, secure file transfers across different operating systems (Cross Platform).

Sewage AID (Node MCU, Servo Motor, Sensors - IR and Ultra Sonic, C++) **Jun 2024 -**

- Developed a sewage cleaning solution, The system detects blockages in drainage pipes, triggers a servo motor to clear the obstruction, and adjusts its movement based on real-time feedback from sensors, ensuring efficient cleaning.
- Intelligent Obstacle Detection and Navigation: Implemented IR sensors for obstacle detection and ultrasonic feedback to enable adaptive navigation. The system reverses its movement once the blockage is cleared, ensuring continuous operation and efficient cleaning, with precise control using the Node MCU.

Skills

Python: Socket, Tkinter, MySQL. Connector, Pandas , Open CV

Internet of Things (IOT): Arduino, Node MCU

C & C++

Virtualization – Type 1 &2 Hypervisor , VMware , VirtualBox

Artificial Intelligence – Tensor Flow, YOLO , MIDAS , Edge AI Devices

Embedded Systems: RTOS (Real-Time Operating Systems), Microcontrollers (Raspberry Pi, Arduino)

IoT Communication Protocols: I2C, UART, SPI

HONORS

1) Highlighted In India's prestigious ingenious Tinkerers Book for my Innovation - (National)

2) Youth Ideation (#National Top 100) for my Innovation in Improving the farmer's agricultural business -

(National)

3) India's Future Tycoons (#National Top 400) For Innovation in Improving Air Quality -(National)

4) Smart India Hackathon (Top32 Nationally) in AgriFoodTech Category| 1:1Presentation with industry leaders| Ideated to reduce food wastage & a new revenue stream for farmers