

MURALITHARAN S

Software Engineer

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SUMMARY

Results-driven Software Engineer with hands-on experience in embedded systems, IoT development, and real-time data acquisition. Proficient in Python, C, and Java, with a strong foundation in hardware-software integration and system design. Proven leadership in cross-functional teams, delivering scalable solutions across academic and industry projects.

EXPERIENCE

Intern Software Developer

SkyX Aerospace Pvt. Ltd

📅 05/2024 - 06/2024 📍 Coimbatore

Company focused on innovative aerospace solutions

- Built a cross-platform dashboard (HTML/Python) to visualize sensor data, improving debugging efficiency by 40%.
- Executed field tests and validated drone system performance, contributing to a 75% improvement in navigation accuracy.
- Optimized real-time telemetry software in Python, reducing latency by 30% for smoother data streaming.

EDUCATION

Bachelor of Engineering in Electronics and Communication (ECE)

PSG COLLEGE OF TECHNOLOGY

📅 10/2021 - 05/2025 📍 Coimbatore

CGPA: 7.12

SKILLS

Programming Languages: Python, Java, C, HTML, Embedded C.

Operating Systems: Windows, Linux.

Databases: SQL, RDBMS.

Embedded Platforms: Raspberry Pi, Pixhawk, ESP 32, Arduino UNO.

Wireless Protocols: Gps, INRSS(NavIC), Navigation Systems, WiFi, Bluetooth.

Multimedia and Processing: Data Visualization, Latency Reduction, TensorFlow Lite, Real-Time Streaming.

Tools: MATLAB, Visual Studio, Mission Planner, Adobe tools, Microsoft tools, VisualGps, NavSpark.

Core Concepts: OOPS, Memory Management, Data Structures.

ACHIEVEMENTS

- Secured the 1st place in FORENSICST - a non-technical event under KRIYA 2023 conducted by the Student's Union, PSG College of Technology in February 2023.
- Secured the 2nd place in SPONTANOVA - a non-technical event under DECIBELS 2023 conducted by the ECE Association, PSG College of Technology in November 2023.

PROJECTS

Blood Pressure Monitoring System

📅 01/2025 - 04/2025 📍 PSG Tech

A project focusing on health monitoring through advanced sensor technology

- Real-time physiological data acquisition with 95% accuracy vs. clinical benchmarks.
- BP prediction within ± 5 mmHg error margin using TensorFlow Lite edge deployment.
- Continuous health tracking with 40% faster processing vs. traditional methods.

Tools and Technologies: Python, Linux, TensorFlow Lite, PPG Signals, Raspberry Pi, PPG Sensor.

Race Track Monitoring System

📅 05/2024 - 07/2024 📍 PSG Tech

A project focusing on Enhanced Navigation & Real-Time Monitoring System

- Developed a real-time mobile-compatible dashboard (HTML/Python) for live performance tracking, reducing data delays by 25%.
- Integrated MPU6050 sensors for motion analytics, enabling UX improvements via gesture-based controls.
- Automated data pipeline from sensors to cloud storage, reducing manual analysis time by 40% while maintaining 99.9% data accuracy.

Tools and Technologies: Python, HTML, MPU6050 Sensor, Flask Framework, SD Card file System, Data Visualization tools.

NavIC GPS Integration for Drones

📅 01/2024 - 04/2024 📍 PSG Tech

An integration project focused on improving drone navigation capabilities

- Reduced positional drift by 60% through custom C-based GPS logic, demonstrating expertise in low-level system optimization.
- Integrated India's NavIC (IRNSS) system with Pixhawk flight controller, achieving < 2 m positional accuracy for resource-constrained devices.
- Designed waypoint navigation algorithms in C, improving route-following precision by 45% - relevant for location-based reading features and page tracking.

Tools and Technologies: Pixhawk, Mission Planner, Gps, INRSS(NavIC), NavSpark, VisualGps.

LEADERSHIP

Design Team Head – IEEE Student Chapter 12951

📅 06/2023 - 04/2025 📍 PSG Tech

Led visual and promotional design for technical symposiums (ATOM 2K23,24, SRISHTi 2K23,24).

Design Team Head – Tamil Mandram

📅 10/2022 - 04/2025 📍 PSG Tech

Organized and designed stage and posters for debate and drama events.

Media Team Member – Entrepreneurs Club

📅 04/2023 - 04/2025 📍 PSG Tech

Coordinated content creation and event documentation for Entrepreneur talks and Workshops (ENEXT23,24,25)

DECLARATION

I, MURALITHARAN S, do hereby confirm that the information given above is up to date and true to the best of my knowledge.

Place: Kallakurichi

Date: 13.07.2025