VISHNU PRIYA P

Engineer (Developer) | 📍 Bangalore, India | 📧 vishnupvspriya@gmail.com

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PROFESSIONAL SUMMARY

Experienced engineer with 2.8 years of experience in **embedded systems**, embedded software, and **GUI development**, proficient in C, C++, RTOS, and Python. Well-organized keen learner with strong interpersonal skills, experienced with **IoT sensors** and **MCUs**. Currently working on **machine learning applications** and **Edge devices** using IoT **sensors** and **Tiny ML**. Skilled in **algorithms, data processing**, and documentation for projects. **Enthusiastic** about continuous learning and staying updated with the latest **cutting-edge** technology.

EXPERIENCE

- **Firmware Engineer (Embedded Systems)**

L&T Technology Services Limited **10/2021 - 06/2024**

Mysore, Karnataka

- Developed **embedded drivers** and communication protocols using **the nRF Connect SDK toolchain (Nordic Semiconductor)** with **Zephyr RTOS** for Industrial Applications. **Multithreaded** Design and Integration to optimize performance and resource management in **real-time applications**.
- Designed and implemented **GUIs** using the **Tkinter** and **Flask** libraries in **Python and a Node-RED app** to generate real-time **Thermal/heat maps** (**GUI development**).
- Worked in **MSP430 MCU** board using **Embedded C** programming and **UART, I2C & LoRa communication.**

Projects:

- Developed firmware for Eaton client using **VS Code IDE, nRF Connect SDK,** and **Zephyr RTOS**.
- Rooftop IR **Thermal imaging – Developed GUI** to generate real-time thermal images using **Node-RED**.
- Transformer oil quality - Developed firmware for **LoRa** communication and color sensing.

EDUCATION

M.Tech in CSE specializing in AI & ML, VIT Vellore **07/2024 – Present**

CGPA: 8.56/10 **Vellore, Tamil Nadu**

Projects:

- Working on **anomaly detection** in Industrial sensor networks using **Tiny ML** models and Edge Devices like **Raspberry Pi**, focusing on **low latency** sensor data processing. Worked with **sensors** (**MQ2 gas sensor, DHT 11, LM35, ultrasonic** etc.) to detect anomalies (Embedded AI).
- Interactive **web app** with **streamlit** and secure via **keycloak** to create LLM task such as **Sentiment analysis** on IMDB Movie review data using **BERT** and **LoRA**.
- Integrated an **OCR application** in Streamlit with **Keycloak** for user **authentication**, processed OCR data using **PySpark**, and moved results from producer to consumer via **Kafka**.
- Developed models using **ML, Deep learning models** and **federated learning**. Integrate with **Keycloak** for **RBAC (Security essential in Applied AI)** in applications like streamlit for LLM (sentiment analysis, OCR) and edge computing.

B. Tech in Electronics & Communication Engineering **08/2017-08/2021**

Dayananda Sagar University **Bangalore, Karnataka**

CGPA: 7.99/10

Projects:

- ROBOTIC ARM FOR SWAB SAMPLE COLLECTION using **ESP8266** and **Blynk app** in **Health care.**
- Eye-based cursor control and eye-coding using image processing, **computer vision,** and **CNN**.

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Embedded C, Java (basics), SCALA (Basics), VHDL (Basics), MATLAB, Open MP, Linux(Basics).
- **Development Tools**: Power BI, VISUAL Studio community, VS code, Code composer studio, MATLAB, MS Office, Node RED, Google Colab.
- **Frameworks and Technologies:** supervised, unsupervised learning, and Deep learning models like CNN, RNN, LSTM BiLSTM, LLMs and transformers like BERT, MLOPS, hugging face, PEFT (e.g., LoRA).
- **Proficient in Data science** - Pandas, Numpy, Scikit learn. SQLPlus, PySpark, TensorFlow, PyTorch, GAN, RAG, Kafka, Flask, Streamlit, Docker, Gen AI, Object Detection and Image processing.
- **Embedded:** Microcontrollers – NRF Connect SDK, MSP430, Arduino UNO, Raspberry Pi, Edge devices, RTOS, ESP 8266 worked with many wired sensors and motors like Temperature, servomotors etc.
- **Soft skills**: Teamwork, Problem solving, Leadership.

ACHIEVEMENTS

- **Published a journal** on **Eye-based Cursor Control and Eye- Coding** using image processing and CNN in **Wiley Online Library. (07/2023)**
- Paper presentation at **International Conference on Recent Trends in Science & Technology,** for the journal **ROBOTIC ARM FOR SWAB SAMPLE COLLECTION. (07/2021)**
- Published **White paper in L&T TS publication** on **ROBOTIC ARM FOR SWAB SAMPLE COLLECTION.**
- Qualified for **SIH 2020** for the project **PORTABLE GENERALISED TONIC-CLONIC SEIZURE ALERT DEVICE.**

INTERNSHIP

- **Intern** Trainee at **L & T Technology Services**. (06/2021 - 10/2021)
- Internship on **Hydraulics, Pneumatics & PLC** for **Industrial Automation** Technologies in collaboration with **Bosch Rexroth**. (02/2021 - 03/2021)
- Internship on "**Military Radar**" at **BEL**, Bangalore. (01/2021 - 02/2021)

CERTIFICATES

- **C** course from Sololearn. (06/2021).
- **nRF Connect SDK Fundamentals by Nordic Semiconductor** Dev Academy. (06/2023)
- **Python For Beginners** from Sololearn. (05/2021)
- **C++ programming** Beginners to Advance from Geeks for Geeks ongoing.
- Texas Instruments **MSP430**: Architecture and Programming from Udemy. (06/2022)
- **Node-RED:** Basics to Bots Powered by IBM.

SOCIAL INTERACTIONS

- Volunteered for **IEEE** college events.
- Participated in workshops and **hackathons** organized by **IEEE** and other student chapter societies.
- Industrial visit to ISRO, Sriharikota.

LANGUAGE PROFICIENCY

- **English:** Read, Write, Speak (Fluent)
- **Kannada:** Read, Write, Speak (Fluent)
- **Tamil:** Read, Speak (Proficient)
- **Telugu:** Read, Speak (Proficient)
- **Hindi:** Read, Write (Proficient)

INTEREST

- Embedded AI/Tiny ML
- AUTOMOTIVE
- LLM & NLP
- LINUX and edge AI for IoT (R&D)