

PAVITH VISHNU S

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SUMMARY

Dynamic and innovative Embedded IoT Developer based in Coimbatore, with a master's degree in Electronics and Communication Systems. Proven expertise in project architecture design, protocol stack integration, framework stage integration, and Azure DevOps, with a strong background in IoT product development from edge to cloud. Passionate about leveraging skills, experience, and creativity to contribute to organizational growth and technological advancement.

EXPERIENCE

Principal Engineer - TinkerBlox Technology Private Limited, Oct 2023 – Present

- Leading development of a lightweight container-less microservice runtime for embedded and edge devices.
- Implemented secure service isolation using Linux kernel tools
- Built tooling for service lifecycle management.
- Developed custom Linux builds with Yocto for ARM architectures.
- Engaged in solution engineering, including project architecture design.
- Integrated protocol stacks (MQTT, AMQP) and frameworks (.NET Nano Framework, .NET IoT Framework).
- Implemented Azure DevOps integration, including App Server Azure Functions, Event Grid, and pipeline management.
- Developed Modbus and BACnet protocols for BMS systems.

Member Technical Staff - HCLTech, Sep 2021 – Sep 2023

- Focused on IIoT product development as an **IoT Edge Network Specialist**.
- Managed protocol stack integration (MQTT, LoRaWAN, Kafka, BLE), sensor integration, and board bring-up activities.
- Developed IoT stack from edge to cloud using open-source tools and managed device backend with Azure IoT and AWS IoT Core.
- Conducted bootloader development for custom hardware with Zephyr and Yocto.

Freelancer - Embedded and IoT Developer

Duplex Healthcare (Australia), Mar 2021 & Dec 2020

- Integrated sensors with development boards and managed data calibration and transfer to AWS IoT Core via LoRaWAN.

- Expanded LoRaWAN network coverage, established AWS IoT Core as database storage, and trained interns on build system usage.

Incubatee Entrepreneur -TBI @ KEC, Mar 2019 – Feb 2021

- Developed technology prototypes under the government-funded **NIDHI PRAYAS** scheme.
- Conducted customer exploration/validation and deployed prototypes with enhanced accuracy in various locations.

Forge - Fellowship (LaunchPad) - Aug 2018 – Feb 2019

- Explored new technologies and created prototypes for specific POCs.
- Conducted field surveys, and customer discovery, and deployed prototypes for data gathering.

SKILLS

- **Programming:** Rust, Embedded C, Python, Node.js
- **IoT Protocols:** MQTT, Modbus, BLE, LoRaWAN, Messaging Queues
- **Embedded Systems:** Yocto, Zephyr, FreeRTOS, Podman.
- **Networking & Isolation:** Linux Namespaces, Cgroups, Netlink,
- **Cloud & DevOps:** Azure IoT Hub, AWS IoT Core, Azure Pipelines, Docker
- **System Design:** Solution Architecture, Microservice Orchestration, Data Flow Management

EDUCATION

Master of Science: Electronics and Communication Systems

Sri Ramakrishna College of Arts and Science, Coimbatore, 2020 - Aggregate of 85.91%.

Bachelor of Science: Electronics and Communication Systems

KG College of Arts and Science, Coimbatore, 2018 -Aggregate of 69.66%.

CERTIFICATIONS

- Graduate Diploma in Hardware/AIoT Product Design and Engineering at Forge Accelerator.

PATENT

- "A real-time monitoring system and method for movements of pachyderms in areas surrounding forests using LoRa WAN (Low Power Wide Area Networks) and providing instantaneous alerts to people." Published in the E-Journal of the Indian Patent Office, 8th Jan 2021.