

Arumugam Panchatcharam

Principle Engineer at DTDL

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Embedded systems and wireless software professional with **12+ years of industry experience** in **WiFi, broadband, and networking platforms**. Strong background in **802.11 WLAN, Linux-based embedded systems, and system-level debugging**. Currently upskilling toward **AI/ML-driven system intelligence**, aligned with next-generation of WiFi for the AI Edge integrating **AI-Ready and AI-Aware**. Actively working on an **AI-based log analysis side project** to bridge domain expertise with data-driven intelligence.

Core Skills

- **Wireless & Networking:** WiFi (802.11 a/b/g/n/ac/ax/be), EMR6, WLAN architecture, RF fundamentals, roaming, QoS, traffic separation, VLANs
- **Embedded Systems:** Linux, device drivers, system bring-up, debugging, performance optimization
- **Programming:** C, C++, Python, Shell scripting
- **Platforms & Tools:** Broadcom WiFi SDK, RDK-B/RDK-V, OpenBFC, Git, Gerrit, Jenkins, CI/CD, Visual Studio
- **AI/ML Exposure:** Self-taught Data preprocessing, log analytics, anomaly detection concepts, Python-based ML workflows

Work History

2023-06 – Current

Principle Engineer

2023-06 to 2025-03 – T-Systems ICT India Pvt Ltd as Senior consultant

2025-04 to current - Deutsche Telekom Digital Labs (internal transition under same parent company)

Bangalore, Karnataka

- Primarily worked on WiFi-7 (802.11BE) + EasyMesh (EMR6) with Airties integration for Mediatek SOC, which is deployed in Germany as SpeedPort-7 (AP CPE) and SpeedPort 7 Plus (Extender).

2017-10 – 2023-06

Senior Software Engineer

Vantiva India private Limited, Chennai, TN

- Bootloader development Done for Comcast STB, Gateways, Router and Charter STB, Router, EMTA.
- Managing Factory package release for LAB, FGR, Pilot and MP. This package contains bootloader, PCI images, fuse OTP's and provision data.

- 2015-05 - 2017-09** **Embedded Developer I**
Mbit Wireless, Chennai, TN
- Worked in Modem Abstraction Layer (MAL) of 4G LTE modem which involves direct interaction with Host, interaction is through either AT or MBIM commands.
 - Design and implementation of MDL (message description language) to decode Network IE's and USIM files.
 - Design and implementation of FSM's for USIM interface and MBIM CID's.
- 2013-05 - 2015-04** **Embedded Associate Executive**
Accel IT Resources, Chennai, Chennai
- Experience in working with AT89C51 and PIC 18F family of micro-controllers.
 - Mini project on Facial recognition with OpenCV and Raspberry Pi.
 - Mini project on Remote monitoring of wind turbine params with CAN and PIC.

Education

- 2026-01** Planned: **M.Tech – Artificial Intelligence**
Aligned with professional upskilling and career transition
- 2009-06 - 2013-04** **B.E: Electronics and Communications Engineering** [7.97]
Gojan School of Business and Technology - Edapalayam
- 2007-05 - 2009-05** **High School Diploma** [82%]
St.pauls Mat HR Sec School – Puzhal

Accomplishments

1. Won 2nd place in hackathon
 - a. Project: Face and Gesture recognition in set top box.
 - b. Favorites will be tuned based on the face recognition.
 - c. Channel No, CH +/-, Volume +/- can be controlled based on the gesture recognition.
2. CES Demo 2020
 - a. Bought up Bootloader and RDKV on Jade/Mini Jade - 4K UHD with WiFi 6.
3. Participation in HackFest Gurugram and showcased AI based Log Analysis Tool
 - a. <https://github.com/Arumugam-panchatcharam/parsemylog-ai.git>

Certifications

- 2013-04** Post Graduate Diploma in Embedded System Design
- 2025-09** Pursuing CWNP Wireless certification