

# 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.

<b>2015-05 - 2017-09</b>	<b>Embedded Developer I</b> <i>Mbit Wireless, Chennai, TN</i>
	<ul style="list-style-type: none"> <li>Worked in Modem Abstraction Layer (MAL) of 4G LTE modem which involves direct interaction with Host, interaction is through either AT or MBIM commands.</li> <li>Design and implementation of MDL (message description language) to decode Network IE's and USIM files.</li> <li>Design and implementation of FSM's for USIM interface and MBIM CID's.</li> </ul>
<b>2013-05 - 2015-04</b>	<b>Embedded Associate Executive</b> <i>Accel IT Resources, Chennai, Chennai</i>
	<ul style="list-style-type: none"> <li>Experience in working with AT89C51 and PIC 18F family of micro-controllers.</li> <li>Mini project on Facial recognition with OpenCV and Raspberry Pi.</li> <li>Mini project on Remote monitoring of wind turbine params with CAN and PIC.</li> </ul>

## Education

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

## Accomplishments

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

## Certifications

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<b>2013-04</b>	Post Graduate Diploma in Embedded System Design
<b>2025-09</b>	Pursuing CWNP Wireless certification