

NITHIN R

+31 619333974 ◊ Leiden, The Netherlands

rajunithin2002@gmail.com ◊ [github/nithin-06](https://github.com/nithin-06) ◊ [linkedin/nithin2002](https://www.linkedin.com/in/nithin2002)

SUMMARY

Software engineer with experience in embedded Linux, enterprise WLAN systems, and low-level debugging, currently pursuing an MSc in Computer Science (AI) at Leiden University. Experienced in C, OpenWrt, networking protocols, firmware stability, and performance-focused system development across enterprise access point platforms. Interested in high-performance systems, infrastructure, and AI-driven software engineering.

EDUCATION

Master of Science – Computer Science (AI Specialization), Universiteit Leiden Feb 2026 – 2028

Bachelor of Engineering – Computer Science, Mepco Schlenk Engineering College 2020 – 2024

- Graduated with 83.5%
- Best Outstanding Student of CSE – 2024

SKILLS

Languages	C, C++, Python, Bash, JavaScript, Java
Systems	OpenWrt, Embedded Linux, WLAN/AP Systems, Multicast Networking, QoS, WLAN Drivers, Cisco, MTK & QCA Driver Environments, Polaris, Buildroot, Routing Protocols
Debugging	Kernel Panics, Memory Leaks, Crash Analysis, Packet Analysis, Firmware Debugging, Linux CLI
ML / AI	PyTorch, scikit-learn, HuggingFace Transformers, Reinforcement Learning
Softwares & Tools	Git, GDB, Wireshark, Airtool, Pi OS, Arduino
Certifications	RHCSA – Red Hat

EXPERIENCE

Software Engineer (Formerly Intern) March 2024 – January 2026
embedUR Systems India Private Limited *Chennai, India*

- Implemented and debugged Bonjour Gateway, Bonjour Fencing, SmartCast, and QoS features for the Ruckus r370 access point on OpenWrt using MTK vendor drivers.
- Implemented and debugged multicast-to-unicast conversion, VLAN integration, IGMP handling, and SmartCast packet delivery debugging across MTK driver and kernel-module layers.
- Debugged packet drops, invalid skb head/tail pointer handling, and multicast traffic instability under 30+ client stress environments in hospitality testbeds.
- Debugged SmartCast packet-drop failures under 50-client load environments; traced performance throttling and resolved stability regressions in AP firmware.
- Diagnosed and resolved kernel panics, memory leaks, taints, race conditions, and firmware crashes in enterprise AP systems running OpenWrt/Linux.
- Resolved integration issues involving SmartCast, VLAN, MLO, and directed multicast handling across driver and firmware layers during enterprise AP feature bring-up.
- Cisco IIoT: developed and debugged application-layer routing features, security/encryption components, and BGP-related functionality.
- Collaborated with QA, firmware, and vendor teams during feature bring-up, validation, and production issue debugging for enterprise WLAN deployments.

PROJECTS

TIGER – Transformer-based Generative Recommender System

Leiden University, 2026

Implemented the TIGER generative recommendation architecture in PyTorch using RQ-VAE semantic tokenisation and Transformer-based sequential modeling on Amazon review datasets. Developed preprocessing, tokenizer learning, training, ablation, and evaluation pipelines to analyse recommendation quality across different architectural configurations.

LLM Evaluation for Medical Plain-Language Rewriting

Leiden University, 2026

Evaluated multiple LLMs (GPT-4 and open-source models) on rewriting clinical instructions into plain language accessible to patients. Evaluated fluency, semantic retention, hallucination behavior, and readability across GPT-4 and open-source LLMs using medical instruction rewriting tasks.

Round – AI-Powered Bill Splitting App

bunq 7.0 Hackathon, April 2026

Built the full backend and middleware for a bill-splitting app integrating receipt OCR, voice command parsing, and bunq sandbox payment requests. System processed receipts to auto-generate itemised payment splits sent via the bunq API.

E-Waste Recycling Incentive Platform

Solana Superteam NL Ideathon, April 2026

Designed and built the backend and middleware for a blockchain-based platform that rewards users with Solana tokens for verified e-waste recycling drop-offs. Tokens redeemable for real-world incentives such as insurance discounts.

Crowdsourced Incident Reporting – Avalanche / XDC Blockchain

Personal Project

Engineered backend and middleware for a decentralised incident reporting portal on Avalanche and XDC networks. Handles crowd-sourced submissions with on-chain verification and support tracking.

Smart Vehicle Monitoring and Accident Prevention System

Academic Project

Built a real-time vehicle safety system using Arduino, OpenCV (Python), multithreading, and ML-based computer vision for hazard detection and incident alerting.

HACKATHONS

- **bunq 7.0 Hackathon** (April 2026) – Built Round, a full-stack bill-splitting app with receipt OCR and bunq payment API integration.
- **Solana / Superteam NL Ideathon** (April 2026) – Built e-waste recycling incentive platform on Solana.
- **PLI Blockathon 2022** – 6th place; awarded 22,000 XDC crypto prize.
- **PSG iTech National Level Hackathon** – 7th place.