Puya Fard

(310) 877-0998 | puyafard217@gmail.com | Irvine, CA

Experience

Tp-link systems inc. | Irvine, CA
Embedded Software Engineer (Networking) | 01/2025 - Present

- Resolved critical QoS and hardware acceleration conflicts across BE25/BE26/BE65/BE85 router product lines by debugging complex interactions between MediaTek HNAT systems, Homeshield parental-controls, and traffic management with DPI and netfilter modules.
- Fixed mesh network stability issues including APSD daemon crashes and dual-band wireless backhaul load balancing problems, improving system reliability
- Fixed bugs by debugging cross-platform firmware issues spanning MediaTek and Qualcomm chipsets. Merged 80+ commits to the master branch.

Pervasive Autonomy lab | Irvine, CA
Research Assistant | 03/2024 - 12/2024

- Research topic: Human-aware automotive testbed using CARLA with VR environment, supervised by Assistant Prof. Dr. Salma Elmalaki in the Pervasive Autonomy Lab. Successfully assembled a fully functional testbed, optimized user experience to match real world driving standards for best performance and studied human-in-loop experiments.

Awards

Excellence Award for Outstanding Achievment TP-Link 2025

Skills

Linux, C programming, Python, Project Management, FPGA, SoC, TensorFlow, Leadership, Git

Education

UC Irvine | Irvine, CA
M.S. Computer Engineering | 12/2024

Fresno state | Fresno, CA
B.S. Electrical and Computer Engineering | 06/2023

Projects

Multi-Platform Router Firmware Development (BE25v2 & BE65v3)

- Developed and maintained firmware for HomeShield, QoS, onboarding, APSD, and cloud modules across MediaTek (BE25) and Qualcomm (BE65) platforms, resolving integration issues between SDK and OpenWRT components
- Resolved 80+ firmware defects in span of whole project cycle (6-months) with average turnaround time of 3-4 days, demonstrating adaptability across concurrent projects on different chipset architectures
- Conducted network protocol analysis and performance testing using Wireshark, iperf, and serial debugging tools to identify and resolve system-level issues
- Coordinated with QA, APP, and cloud engineering teams to ensure cross-functional alignment and deliver integrated solutions.
- Implemented Python-based automation for bug tracking workflow integration across Bugzilla, Jira, and Confluence platforms

SmartZoo Controlling & Monitoring system

- Created a safe and intelligent control environment that ensures the safety of stingrays, reptiles and elephants in the zoo. This project leverages embedded systems, cloud-based programming, and a software-based user interface to monitor, collect, and store data.

Optimized Hardware Accelerators for Deep Learning Architectures

- Designed and optimized hardware accelerators for UNet, VGG16, and llama3_variant deep learning architectures. Achieved significant reductions in latency (up to 70.54%) and energy consumption (up to 54.11%).