



AZKALI

Linux Kernel & Low-Level Engineer · Founder, Linux 4 Switch · L4T Fedora Maintainer · Mainline kernel contributor · ARM64 / Tegra / Snapdragon / MediaTek · Director, Azkali Limited (HK)

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PROFILE

I bring up Linux on hardware that vendors won't help with. For more than six years I've ported, debugged, and maintained Linux across ARM64 SoCs — NVIDIA Tegra, Qualcomm Snapdragon, MediaTek — and on consumer devices that ship with locked-down vendor stacks. I work the whole vertical: bootloader (U-Boot, lk), device tree, kernel drivers (display, clocks, PMIC, GIC, input), userspace compositor (Mir, Lomiri, KDE Plasma), distro packaging (Fedora, Debian/Ubuntu, Gentoo), and the CI/CD that ships it. I founded and lead Linux 4 Switch (L4S), the open-source effort behind desktop Linux on the Nintendo Switch; I'm the named maintainer of L4T Fedora at Switchroot, a long-running contributor to the mainline kernel for Tegra X1 / Tegra210b01, and I run an active LKML patch series upstreaming the PocketDS handheld. I contributed upstream to UBports' Lomiri and qtmir, ported Ubuntu Touch to the Galaxy Z Fold 3, and do notable work on the Mir 2.x stack enabling native Wayland Linux apps under Lomiri. I'm porting postmarketOS to the Samsung Galaxy Tab S9 (SM8550 / Snapdragon 8 Gen 2). On the AMD / inference side I run llama.cpp and vLLM on Strix Halo (Ryzen AI Max+ 395, ~124 GB unified VRAM) and 7900 XTX nodes via ROCm/HIP, including multi-node Ray + pipeline-parallel setups. I operate as Director of Azkali Limited, a Hong Kong incorporated low-level engineering company.

EXPERIENCE

Azkali Limited

Nov 2025 – Present · Hong Kong (incorporated)

Director & Principal Engineer — Linux Kernel & Low-Level Systems

Hong Kong incorporated low-level engineering company, the continuation of the freelance practice I ran in France. Linux kernel work, ARM64 hardware bring-up, mainlining, and adjacent infrastructure for hardware vendors, mobile-Linux projects, and AI/ML teams running AMD ROCm hardware. Fixed-scope projects, retainers and longer engagements; invoicing in USD or EUR.

- Volla Systeme GmbH — Mir 2.x → Lomiri Wayland enablement
- postmarketOS on Samsung Galaxy Tab S9 (SM8550) — kernel bring-up, GIC/hypervisor quirks, ramoops, earlycon, DTBO
- L4T Fedora 39/41/42 — distro maintenance at Switchroot/L4S
- PocketDS — mainline kernel port, LKML series v3

Volla Systeme GmbH

Apr 2024 – Present · Remscheid, Germany

Linux Engineering Consultant — Ubuntu Touch

Ubuntu Touch developer across the Volla device lineup.

- Participated in Ubuntu Touch OTA releases
- Kernel work, fixes and performance benchmarking for all Volla devices
- Mir 2.x stack bring-up; added power-saving to Ubuntu Touch; overall QoL improvements

Linux 4 Switch (L4S) / Switchroot

Jan 2020 – Present · Open source

Founder & Lead Maintainer

Open-source desktop Linux on the Nintendo Switch (Tegra X1) via a FOSS bootstrap exploiting a low-level recovery bootloader.

- Bootstrapping automation for GNU/Linux OSes; hex-editing bootloaders (hekate-ipl, Das U-Boot, Coreboot)
- Kernel driver development, mainline driver back-porting, 4.9 driver maintenance
- Work-in-progress mainline Linux port (almost complete); KVM acceleration; Ashmem/Binder for Android containers
- Preliminary vGPU/paravirtualization for the Tegra X1 GPU; full CI/CD for all L4T projects
- Also: Xavier NX bring-up; Nvidia Shield portable (ROTH) mainline port with Grate GPU drivers

SKILLS

Kernel & BSP

Linux kernel bring-up on downstream/vendor Android kernels (MediaTek, Qualcomm, NVIDIA Tegra), Device tree (DTS/DTSI/DTBO) authoring and fixing — boot delays, TPCP conflicts, touchscreen, panel-ID, Mainline-oriented Tegra work (DSI display/panel, clk DFLL/PLL, Tegra power/voltage), Kernel backporting (e.g. CPUID emulation 4.11, openat2/RESOLVE_IN_ROOT 5.6, futex_waitv 449, 48-bit VA, 32-bit compat syscalls), Cross-compilation (Linaro GCC, clang/LLVM GKI builds), defconfig surgery, UART/serial recovery, ARMv8.0-A constraints (no LSE atomics / no LDAPR) and CPU-tuned rebuilds

Device enablement / Halium

Halium + libhybris Android-HAL bring-up (graphics, display, sensors, RIL/ofono, audio), Halium 11/12/13/15 across MediaTek (MT6768/MT6789/MT6877/MT8781) and Qualcomm (SM8350/SM8550/SM8750), boot image / super.img assembly, halium-generic-adaptation-build-tools, deviceinfo / DeviceConfiguration, per-device overlays, ramdisk overlays, Diagnosing HAL-vs-shell faults (logcat / hybris logs vs mir/lomiri logs)

Graphics & compositor

Mir 1.x / qtmir / Lomiri and the port to Mir 2.25 / MirAL, Nested Mir servers over wayland-egl on a single-owner libhybris GPU (/dev/mali0), EGL share-group / context debugging (allocator vs renderer context bugs), VAAPI hardware encode offload, Sunshine/Moonlight game streaming, Mesa/Turnip, gl4es, CEF / X11 software presenter quirks on Tegra (Steam webhelper)

Distro & packaging

Fedora RPM / COPR packaging (Linux 4 Switch kernel, firmware, BSP), bootc / rpm-ostree / ostree image builds (Containerfile, fedora-bootc), Debian packaging co-installable on stock Ubuntu Touch, custom APT repo (mir2.azka.li), jet-factory rootfs pipelines, hekate → U-Boot boot chains, WordPress / WooCommerce / Docker Swarm site hosting and admin (own infra)

Tooling & workflow

C / C++ (incl. C++20), shell, Python; kernel C and assembly (arch/arm64 entry.S), git / GitLab MR workflow, upstream contribution and review, adb / fastboot / Odin / Heimdall, OrangeFox recovery, nandroid, DVFS / cpufreq power profiling with stress-ng, repowerd power-save services

**Freelance — Linux & Low-Level
Software Engineer**

Oct 2019 – Nov 2025 · France

**Independent freelance practice
(France)**

Independent freelance practice registered in France: Linux kernel work, ARM64 hardware bring-up, mobile-Linux porting and adjacent low-level engineering for hardware vendors and open-source projects. Consolidated under Azkali Limited (HK) from Nov 2025.

- Volla Systeme GmbH (Apr 2024 – Nov 2025) — Mir 2.x / Lomiri Wayland enablement
- Long-running UBports (Lomiri, qtmir) and Switchroot / Linux 4 Switch contributions
- GPD P2 Max Hackintosh — shipped by GPD as part of their official P2 Max driver archive
- Mainline Linux kernel contributions for Tegra X1 / Tegra210b01
- Samsung Z Fold 3 5G: TWRP, Ubuntu Touch, MU-Project/edk2-msm UEFI, mainline kernel, Windows driver adaptation

**Monarchie Paris
WordPress Developer**

Jan 2022 – Present · Paris

Development of the boutique site for the luxury prêt-à-porter brand “Monarchie Paris”.

**Décision RH
System Administrator**

Jan 2022 – Jan 2024 · Paris

Technical support and infrastructure for Décision RH: client machine administration (setup, software), whole-infrastructure support, and WordPress development. Company closed June 2023.

**Le Pavillon de l'aero
System Administrator**

Jan 2017 – Jan 2020 · St.-Cyr-l'École

Workstation and equipment setup, on-site and remote maintenance of the computer park, and technical support for users.

**Econocom
Technical Support Technician**

2015 – 2016 · Neuilly-sur-Seine

Work-study program with IPI; assigned to Econocom's Client Channel site for maintenance and basic administration as a support technician.

EDUCATION

IPI Institut Polyinformatique
Information Technology · 2015 – 2016

LANGUAGES

English (C2, native/bilingual)
French (native)
German (A2/B1)
Thai (A1/A2)
Japanese (A1, spoken)

CERTIFICATIONS

Technicien Support en Numérique — Niveau IV