

Ruslan Vishtalmagomedov

Software Engineer / Automation Engineer / Hardware Validation Engineer / SRE

🔗 git.sr.ht/~ch3rrix

Automation and hardware validation engineer with experience spanning telemetry pipelines, embedded firmware, Linux systems, and test automation. Open to full-time on-site, remote, or hybrid roles.

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Work

YADRO

yadro.com

Junior Automation Engineer

Jan 2026 – Aug 2026

Built telemetry, firmware, and device-management tooling for server-room hardware, plus a hardware validation module for the internal test automation framework.

- **Server Room Power Monitoring System:** engineered an end-to-end telemetry pipeline using a WirenBoard Map12E multi-channel power meter, WirenBoard MGEv3 multi-protocol gateway, Kubernetes services, and an Ulanzi TC001 desktop matrix clock. Developed a Python service to read Modbus TCP metrics, stream real-time data to Grafana and MQTT brokers, and visualize live metrics directly on clock displays beside server racks while persisting historical metrics in Grafana. (Python, Modbus TCP, MQTT, Docker, Kubernetes, Grafana)
- **Firmware Modification (Awtrix3):** customized Awtrix3 firmware on ESP32/Ulanzi TC001 to support WPA-Enterprise (WPA-EAP) Wi-Fi networks and advanced display message formatting. Configured CI pipelines for automated firmware builds triggered by Git tags and added support for custom OTA update servers. (C++, ESP-IDF, Arduino-ESP32, PlatformIO, Python)
- **Device Management Web Service:** built a Golang web service using Gorilla Mux for centralized display configuration via MQTT and HTTP APIs. Implemented dynamic IP resolution via DHCP MAC tables, automated config provisioning via JSON templates, remote firmware flashes, OTA requests, reboots, and factory resets. (Go, Gorilla Mux, REST API, JSON)
- **MDIO Protocol Analysis Module:** authored a Python hardware validation module for the internal test automation framework, implementing Saleae Logic2 CSV dump parsing with frame decoding and protocol compliance checks against official MDIO specifications. (Python, Pandas, Polars, Logic2 Automation API, Matplotlib)
- **Automated Power Testing Infrastructure:** deployed an automated laptop power consumption testbed for Kvadra laptops using Zigbee devices (smart plugs, buttons, dongles) via Zigbee2MQTT, with remote control through Python scripts and manual triggers via a web interface. (Python, Zigbee2MQTT, MQTT)
- **Engineering process:** tracked issues in Jira, authored technical specs in Confluence, maintained version control in Bitbucket, and orchestrated CI/CD runs with Jenkins and Artifactory, applying Conventional Commits and SemVer.

Commodity Verification Engineer

Sep 2025 – Dec 2025

Validated server hardware and BMC/BIOS telemetry, and automated stress-test infrastructure.

- Verified server components (CPU, GPU, PSU, RAM, SAS/NVMe, NIC) and custom target configurations under functional loads and stress testing routines.
- Developed Bash and Python scripts to automate stress test execution, log parsing, and metric analysis, significantly reducing execution time and human error.
- Recompiled Linux kernels with custom vendor patches for hardware validation; diagnosed driver, module, and hardware-level issues.

- Tested BMC/BIOS microcode and gathered hardware telemetry via Redfish APIs; validated remote management workflows.
- Configured test environment infrastructure including DHCP, PXE, NetworkManager, and Grafana; collaborated with DevOps to refine target PXE images.
- Maintained parallel remote test/debug sessions across multiple server targets using tmux and zellij over unstable SSH connections; maintained technical docs in Confluence and managed Jira workflows across departments (DevOps, BIOS/BMC, MFQA).

ALT Linux (BaseALT)

www.basealt.ru

Junior QA / Test Engineer

Jan 2025 – Jul 2025

QA for ALT Linux distribution releases and RPM packages across multiple editions.

- Tested ALT Linux package repositories and OS releases; verified package installation integrity, dependency graphs, backward compatibility, regressions, and distribution standards.
- Diagnosed build failures and fixed spec files for RPM packages using rpmbuild and internal build environments.
- Ran concurrent test suites across 6 ALT Linux editions (Workstation, KWorkstation, Server, etc.) to uncover architecture- and edition-specific bugs prior to release.
- Validated system images via CD/DVD, USB, and PXE boot setups; checked core Linux subsystems (GRUB, systemd, drivers) and executed stress tests.
- Conducted tests on physical hardware (PCs, laptops, tablets, all-in-ones) as well as virtual environments (QEMU, Proxmox, Docker); used Bash, Python, and Ansible for test environment deployment.
- Worked directly with package maintainers to report, isolate, and resolve defect reports using Redmine.

A3F Group (Marketcall)

www.marketcall.com

QA / Quality Control Specialist

May 2023 – Oct 2023

Quality control for marketing campaigns and advertiser compliance on the Marketcall platform.

- Monitored marketing campaigns, audited English call logs, and monitored advertiser compliance on the Marketcall platform.
- Automated conversion tracking processes and created consolidated reports in Google Sheets; handled advertiser partnership escalations.

Presidential Foundation for Cultural Initiatives

фондкультурныхинициатив.рф

System Administrator / Web Admin

May 2023 – Jun 2023

Managed portal operations and system workflows for grant applications.

- Managed portal operations, configured system workflows for grant applications, handled tier-2 customer support tickets, and worked alongside backend support teams.

Teleperformance Russia Group

www.tp.com

Technical Support Specialist (Apple Tier-2)

Jan 2022 – Oct 2022

Tier-2 technical support for Apple products, collaborating with global engineering teams.

- Provided technical support for Apple products (iOS, macOS, watchOS, iCloud, smart home accessories, iMac).
- Collaborated with global engineering teams in English via chat and phone calls to reproduce complex OS-level bugs, leading to upstream fixes in subsequent macOS updates.

Side-projects

Go Booru Bot

git.sr.ht/~ch3rrix/go-booru-bot

Telegram bot for sending images from online image boards

Golang Telegram Bot API

Custom Built AOSP ROMs

Throughout my experience using Android-based smartphones, I periodically modified and built my own ROMs based on AOSP and LineageOS.

AOSP LineageOS Vendors device-tree

NixOS Configuration

git.sr.ht/~ch3rrix/nixos-config

My simple NixOS Configuration

Linux NixOS

Split Keyboards

Built several custom split keyboards: Corne, Sofle, and Scylla. 3D-printed the cases, soldered the PCBs, and modified and build custom firmwares.

PCB Embedded 3D Printing

Skills

Programming & Scripting

Python Go (Golang) C C++ Bash SQL

Hardware & Protocols

Modbus TCP MQTT MDIO Redfish API Zigbee

Microcode (BIOS/BMC)

Server Hardware (CPUs, GPUs, NVMe, PSUs)

Saleae Logic2 Automation API

Monitoring & Tools

Grafana Jira Confluence Redmine Saleae Pandas

Polars

Systems & Linux

GNU/Linux Kernel compilation systemd GRUB

RPM Driver/Module Debugging Embedded Systems

ESP32 ESP-IDF Arduino PlatformIO

DevOps & Infrastructure

Docker Kubernetes Jenkins Git Bitbucket

CI/CD Pipelines PXE DHCP Ansible QEMU

Proxmox

Operating Systems

List of Operating Systems I use

Fedora NixOS Arch Linux Debian

Languages

Russian

Native

English

B2 Upper-Intermediate