

Pavel Anpin



Software Engineer | Reproducible Distributed Systems | IoT

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SUMMARY

Senior Software Engineer with 10+ years building distributed .NET systems in F# and C#. Experienced in event-driven platforms, CQRS, and reproducible infrastructure. Knowledgeable in all aspects of software development, including backend, frontend, and cloud, delivering maintainable, production-ready solutions.

SKILLS

- **Languages:** F#, C#, SQL, C++, Rust, Lua, Bash, PowerShell
- **Backend:** Akka.NET, Giraffe, ASP.NET Core, gRPC, REST/HATEOAS, WebSockets, SignalR, WebRTC, OAuth2/OIDC, SSO/SAML, RBAC, TLS, GPG, YubiKey, SOPS, xUnit, NUnit, FsCheck, Expecto, OpenTelemetry, CQRS/Event Sourcing, Domain-Driven Design (DDD)
- **Frontend:** Fable, Sutil, Avalonia, MAUI/Xamarin.Forms, WPF, SkiaSharp, TailwindCSS/DaisyUI, HTMX, Astro, Next.js
- **DevOps:** Nix, Docker/OCI, CI/CD pipelines (GitHub Actions, Azure DevOps, etc), compiler tooling (CMAKE, MSBuild, FAKE etc.), git, integration & hardware-in-the-loop testing
- **Infra:** NixOS, Linux, Azure, AWS, Kubernetes, Nomad, Proxmox, QEMU, Firecracker, Ceph, MinIO, nginx, Authentik, PostgreSQL/TimescaleDB, Kafka, ClickHouse, Redis, MQTT, RabbitMQ, Grafana

WORK EXPERIENCE

Alerio

Technical Founder | Dec 2022 - Present

- Shipped real-time building control and monitoring platform for incidents, energy usage, and costs.
- Prototyped a C# solution, gathered market and customer feedback and turned it into a full-stack F# platform (Giraffe/ASP.NET Core, Akka.NET, SignalR, Fable, HTMX, Vega, TimescaleDB/PostgreSQL).
- Implemented reproducible, declarative infrastructure with Nix/NixOS and a self-hosted stack (Grafana, ClickHouse, Forgejo, Authentik).
- Built DSL for efficient hardware integration, runtime module registration from text files, automation rules and data pipelines.

- Implemented reactive graph visualization for arbitrary data from modules: 50000 sparse datapoints loaded in less than 5 seconds in a WebGL rendered graph.
- Implemented offline-first voice control over WebRTC for on-prem devices with self-hosted STT/TTS/LLM pipeline for user intent recognition and response, including smart speaker firmware for ESP32.
- Built automated build/publish pipeline for product website, enabling A/B testing of marketing materials.

Independent Contractor

Self-employed | Dec 2016 - Present

Delivered and maintained bespoke cross-platform native apps (Xamarin.Forms/MAUI, Avalonia), full-stack web services (ASP.NET Core, Giraffe, Akka.NET) and embeded firmware (ESP-IDF, Rust), implemented CI/CD pipelines, and migrated client systems from .NET Framework/C# to dotnet8/F# using Akka.NET, Giraffe, and Avalonia-improving maintainability and scalability.

Highlights:

- Velonetic: Presentation room control system with custom CMS for Tizen signage, real-time web control, scheduling, transcoding, and integration with Crestron/Biamp/Dante. Reproducible builds with NixOS and deployment CI/CD integration testing.
- BrightlinkAV: original ASP.NET + XF app, migration to MAUI and .NET Core, Azure cloud deployment, and CI/CD automation for app publishing.

Open Source Contributions

- Ported Akka.NET Management DNS-based service discovery from Scala Akka.
- Maintainer/contributor to nixos/nixpkgs
- Authored a popular MAUI/Xamarin.Forms context menu plugin with >60 ★.

Past Programming & Engineering Roles

2013–2017

Progressed from intern to Chief Engineer across 8 Ohm Ltd, AudioVideoSystems Ltd, and IMS Group Ltd, designing and programming audiovisual control systems (C#, Lua, Netlinx, DSP, network configuration, rack assembly, and commissioning).

EDUCATION

Siberian State University of Telecommunications and Information Science

Engineer's degree, Audio Visual Technologies | Sep 2009 - Jun 2014 (5 yrs)

Graduation Work: Project of audiovisual complex for universal hall in the hotel “Hermitage” in the city of Yekaterinburg

LANGUAGES

English: Bilingual/Fluent, Russian: Native, Portuguese: basic

LOCATION

Currently based in Rio de Janeiro, Brazil. Open to relocation and remote positions.