

Pavel Anpin



Creative Technologist | Audiovisual Systems | Interactive Installations ***Rio de Janeiro, Brazil | Remote | Open to relocation ***

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SUMMARY

Creative technologist with 12+ years of experience in bringing cyber-physical systems to life from both hardware and software angles. Background in AV system integration for luxury hospitality, enterprise and multimedia performance contexts. Knowledgeable in all aspects of software development, including backend, frontend, and cloud, delivering maintainable, production-ready solutions.

SKILLS

- **Creative Tools:** vvvv, TouchDesigner, OpenFrameworks, MaxMSP, pd, SuperCollider, madMapper, Ableton Live, shaders (GLSL/HLSL), p5.js
- **AV integration:** projection, lighting, sound, sensor integration, computer vision, multicast networks, IP audio/video, DMX, Art-Net, OSC, MIDI, AVB, Dante. Brands: Panasonic, Sony, AMX, Crestron, Extron, Biamp, QSC, Bose, Void Acoustics, etc
- **Hardware & Prototyping:** wiring, rack assembly, PCB rework, soldering (SMD/through-hole), microcontrollers (ESP32/Arduino), AutoCAD, EASE
- **Programming:** F#, C#, C++, Rust, Lua, Netlinx, Bash, PowerShell, skiasharp, webgl, webgpu, Astro, HTML, CSS, JS
- **Backend & Infra:** Akka.NET, ASP.NET Core, Giraffe, gRPC/WebSockets/WebRTC, TimescaleDB/PostgreSQL, MQTT, NixOS, Docker, CI/CD
- **Frontend:** Fable, Avalonia, MAUI/Xamarin.Forms, WPF, SkiaSharp, DaisyUI, TailwindCSS, HTMX

WORK EXPERIENCE

Alerio

Technical Founder | Dec 2022 - Present

- Built real-time dashboards and spatial visualization integrating IoT sensors, AV devices and for interactive building control and monitoring.
- 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 WebGL 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

Creative Tech & AV Systems | 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 for AV installation, scheduling, transcoding, and integration with Crestron/Biamp/Dante, custom windows kiosk shell to control/update TouchDesigner players, GreenHippo media server. Reproducible builds with NixOS and deployment CI/CD integration testing.
- BrightlinkAV: app to control video matrix and streaming systems; original ASP.NET + XF app, migration to MAUI and .NET Core, Azure cloud deployment, and CI/CD automation for app publishing.
- Countless comercial AV installations, including hotels, resorts, and corporate event spaces.

IMS Group Ltd

Chief Engineer | Jun 2016 - Sep 2017 (1 yr 4 mos)

Led engineering workflow for a newly formed systems integrator Delivered turn-key hotel and corporate AV systems

AudioVideoSystems Ltd

Project Engineer | Dec 2015 - May 2016 (6 mos)

Pre-sales engineering support, coordinating with clients, contractors and internal teams.

8 Ohm Ltd

Project Engineer | Aug 2013 - Nov 2015 (2 yrs 4 mos)

Advanced from intern to engineer. Designed, commissioned and programmed bespoke audiovisual solutions. Directly communicated with clients and contractors, delivering reliable installations and comprehensive post-installation training.

Open Source & Community

- Participated in media-arts communities (Budka Tbilisi, scanlines.xyz) with generative audiovisual works (vvvv, feedback systems, emergent visuals).
- 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 ★.

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

CERTIFICATIONS

- Certified Programmer for many brands e.g.: Crestron, AMX, Extron, Biamp, Helvar and more
- Dante Level 1 & 2

LANGUAGES

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

LOCATION

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