

Danil Aptin

Software Engineer - C & C++ Systems / Backend

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SUMMARY

Software engineer with 7+ years of experience in **C** and **C++** (standards 11 through 23). Background spans game engines, desktop systems software, and backend services. Comfortable with multithreading, TCP/UDP networking, template metaprogramming, and low-level work close to the hardware.

Strong in math and algorithms. Build and run my own infrastructure: servers, networking, databases. Open to backend, systems, or platform engineering roles; currently learning Rust and Go.

TECHNICAL SKILLS

Languages	C, C++ (C++11 / 14 / 17 / 20 / 23), Java, Python, TypeScript / JavaScript, PHP, SQL, Bash, GLSL, x86 / x64 Assembly
C++ & Fundamentals	STL, templates, template metaprogramming, generics, OOP, RAII, smart pointers, multithreading, concurrency, atomics, lock-free, memory management, data structures, algorithms, Big-O, performance optimization, profiling
Currently Learning	Rust (Cargo, ownership, async / await), Go, CUDA, GPU compute, OpenCL
Libraries & Frameworks	Boost, STL, Boost.Asio / standalone Asio, Crow C++, Dear ImGui, ICU, PortMidi, MidiFile, GLFW
Build, Debug & Tools	CMake, Make, Ninja, Gradle, GCC, Clang, MSVC, Visual Studio, GDB, Valgrind, AddressSanitizer, perf, x64dbg, IDA Pro, Cheat Engine, Wireshark, Bruno, Git, GitHub, GitLab, GitHub Actions, CI/CD, Docker, unit testing, code review, Agile / Scrum
Systems & Low-level	System programming, low-level programming, POSIX, syscalls, IPC, shared memory, WinAPI, COM, MFC, cross-compilation, Linux, Windows
Networking	TCP/UDP, sockets, network protocols, HTTP, TLS, REST, gRPC, Protobuf, Boost.Asio
Graphics & Gamedev	Game engine development, gameplay programming, GLSL, shaders, OpenGL / WebGL, Emscripten, WebAssembly, real-time rendering, 3D math, linear algebra, physics, simulation
Reverse Engineering	Static & dynamic analysis (IDA Pro, x64dbg, Cheat Engine), x86/x64 assembly, disassembly, binary analysis, PE / ELF, process-memory analysis, signature scanning, module-base offsets, runtime hooking, code deobfuscation (Java bytecode, JavaScript), network traffic analysis (Wireshark, HTTP Debugger, NetLimiter)
Databases	MySQL (X DevAPI), SQL, SQLite, transactions, indexes
Infrastructure / Ops	Linux & Windows, Docker, Nginx, systemd, iptables, VPN (WireGuard), Prometheus, Grafana, GitHub Actions / CI-CD, Let's Encrypt
Specializations	Highload / high-performance, low-latency, microservices, cross-platform desktop applications, REST API design, CLI / GUI tooling
AI Tools	Claude Code, GitHub Copilot, Codex, Ollama

Also exploring / familiar with: Embedded, embedded software / firmware, microcontrollers, ARM, ARM Cortex-M, RISC-V, bare-metal, cross-compilation, computer vision, OpenCV, image processing, GPU compute, HFT, algorithmic trading, market data, DPDK, eBPF. English C1, remote, relocation, Middle / Senior.

WORK EXPERIENCE

Be Nice Games

11.2024 - Present

Herceg Novi - Montenegro

C/C++ Software Engineer

Build interactive software on the company's proprietary C++ engine (W4), which has no visual editor: gameplay, rendering, and tooling are written and debugged directly in code. Integrated external APIs and third-party services.

Key Responsibilities:

- **System & feature implementation.** Delivered 50+ discrete features/systems of varying complexity end-to-end.
- **Internal tooling.** Built reusable modules and tooling that cut new-project setup time by 20% and reduced potential defect rate by 30%. Designed a multilingual/localization system adopted project-wide.
- **Debugging & maintenance.** Diagnosed and fixed 100+ legacy defects in an unfamiliar, undocumented codebase.
- **Release engineering.** Packaged and shipped 20+ production builds.

Stack: C/C++, Emscripten, JavaScript, ImGui, CMake, GLSL

WizardSoft

09.2023 - 10.2024

Saint Petersburg - Russian Federation

C/C++ Software Engineer

Developed and maintained a desktop application for generating structured business documents (logic comparable to a combination of Excel, Access, and Word): document composition, cross-referencing, automatic formula recalculation, and dependency resolution. Built new UI components using MFC.

Key Responsibilities:

- **Domain-logic modules.** Implemented 25+ new modules, adding 7 new supported document types to meet client requirements.
- **Cross-platform UI.** Built new MFC-based UI components and adapted 10+ functional forms to run on Linux.

Stack: C/C++, COM, MFC, VS Studio

Fifth Dimension

Russian Federation

11.2021 - 01.2022

Full-Stack Developer (Internship)

Built a website and admin panel on Laravel, designed and structured a MySQL database, and integrated all components into a complete system. First hands-on experience writing complex SQL queries and implementing data encryption.

Key Responsibilities:

- **UI & layout.** Designed and built the site and admin panel.
- **Database design.** Structured and implemented the MySQL schema.
- **Backend.** Built API logic and integrated it with the database.

Stack: PHP, HTML, CSS, JavaScript, MySQL, Laravel

Freelance

Russian Federation - Remote

01.2020 - 01.2022

C/C++ Developer, Reverse Engineering

Game trainers to order: locating values in memory, hooking the code that changes them, and keeping offsets alive across game patches. Reversed save and asset formats, and wrote binary patches and DLL mods for games never built for modding. Where the reverse-engineering interest turned into paid work.

Stack: C, C++, x86 Assembly, WinAPI, IDA Pro, x64dbg, Cheat Engine

Freelance

Russian Federation - Remote

01.2019 - 12.2019

Python / Web Developer

Commissioned work during the college years. Started in Python: site parsers, Telegram and other chat bots, automation scripts, and collection and processing of large data sets. Then web: sites and admin panels in JavaScript and PHP, with the MySQL schemas behind them.

Stack: Python, JavaScript, PHP, MySQL, REST, HTML/CSS

NOTABLE PERSONAL PROJECTS - [GITHUB.COM/AYOREE](https://github.com/ayoree)

BadwordDetector

Async C++23 REST API backend: Crow, standalone Asio, ICU for Unicode-aware text, official MySQL C++ Connector. Multithreaded, MySQL-backed.

Midi2Qwerty-plus

C++ systems-level I/O tool: real-time MIDI-to-keyboard-input emulator (88 keys, velocity, sustain, file playback). Built with Dear ImGui, PortMidi, MidiFile, GLFW.

ChatImprover

Java library/API design exercise: a Minecraft Fabric mod exposing an extensible addon API, published via GitHub Packages with CI and a starter template for third-party developers.

ADDITIONAL HIGHLIGHTS

Independently designed, deployed, and maintain a personal Ubuntu server: Nginx reverse proxy, Docker, MySQL, VPN endpoints on WireGuard/Amnezia/Hysteria, Grafana/Prometheus monitoring, self-managed SSL and domains.

Reverse engineering has been a long-standing personal interest. It began with modifying game code directly in assembly through Cheat Engine (starting with Worms 3D) and grew into writing my own trainers that locate addresses by signature scanning and module-base offsets, so they stay valid across restarts and game updates (Dota 2 among them). It later expanded into code deobfuscation (changing Java behaviour directly in the bytecode; working through obfuscated JavaScript while analysing client-server exchanges) and network-traffic analysis. The same skills carry over to debugging and production troubleshooting.

EDUCATION

Plekhanov Russian University of Economics, Russian Federation, 2022

Specialization: Programming in Computer Systems

LANGUAGES

English: C1

Russian: Native