Aidar **Khatiullin**

SENIOR C++ SOFTWARE ENGINEER

Novi Sad, Serbia & Remote

✉ khatiullin@gmail.com | ⬡ gofff | in khatiullin

Summary

Senior C++ Software Engineer with 10+ years of experience building performance-critical systems, primarily in the computer vision domain. Recently focused on applying this experience to game development using Unreal Engine 5, Unity, and custom C++ frameworks.

Skills

Core Engineering	C++, STL, Python, multithreading, profiling, performance optimization, SIMD (SSE/AVX), cross-platform development
Game Development	Unreal Engine 5 (C++), Unity, SFML
Tools	CMake/NMake, Git, Visual Studio, GCC, gdb
Computer Vision & ML	Computer vision pipelines, geometry processing, image-based systems, performance-critical vision code (OpenCV, PyTorch), ML frameworks
Business & Product Context	Ownership, engineering trade-offs, budgeting, mentorship, stakeholder communication, planning
Languages	English (Upper-intermediate), Serbian (B2), Russian (native)

C++ & Gamedev Experience

Personal Projects   *2023 – Present*

GAME DEVELOPMENT

- Worked with Unreal Engine 5 in C++, completing an Unreal Engine C++ course and implementing a simple first-person shooter prototype.
- Implemented basic gameplay AI experiments in Unreal Engine, including exploration of GOAP-style decision logic in small prototypes.
- Built small interactive gameplay prototypes in Unity (mobile-style mechanics such as Tetris and draw-to-move) and in C++ using SFML (2D arcade-style airplane control game).

ABBYY (CoreOCR Team)   *Nov. 2021 - Oct. 2024*

RESEARCH ENGINEER & PRINCIPAL C++ DEVELOPER   *Novi Sad, Serbia, Hybrid*

Global technology company specializing in document processing and OCR.

- Implemented performance-critical C++ machine learning components for text layout analysis, improving recognition quality on noisy and complex documents.
- Reduced memory usage and improved runtime efficiency of production inference pipelines.
- Improved robustness of post-recognition language processing by tuning classical language models and heuristic logic.
- Debugged and fixed a critical SIMD-related crash by analyzing cross-platform crash dumps and investigating AVX-specific C++ code paths.

Intelligent Security Systems   *Oct. 2016 - Nov. 2018*

COMPUTER VISION RESEARCHER & C++ DEVELOPER   *Moscow, Russia, On-site*

Engineering company focused on computer vision–based security solutions.

- Developed and improved license plate recognition (LPR) algorithms in C++ using classical computer vision techniques.
- Optimized real-time image processing pipelines with multithreading and SIMD (SSE) to meet performance constraints.
- Extended recognition systems to related domains such as cargo and railway carriage number recognition.

Python & Computer Vision & ML Experience

Rescope
Jun. 2025 – Jan. 2026

Lead Computer Vision Engineer & Consultant
San Francisco, US, Remote

Early-stage startup focused on AI-driven analysis of buildings and architectural data.

- Led and delivered multiple computer vision projects in the domain of building and floorplan analysis, covering satellite imagery, architectural PDFs, and vector and raster floorplans.
- Designed and implemented end-to-end pipelines for extracting structured building data from heterogeneous sources under evolving product requirements and technical uncertainty.
- Owned data strategy and preparation, including dataset collection and annotation workflows, and advised founders on product scope, feasibility, and engineering effort.

DataNerdsAI
Nov. 2018 - Nov. 2021

Head of Computer Vision & Senior Computer Vision Engineer
Moscow, Russia, On-site

Computer vision consultancy delivering applied AI solutions for industrial domains.

- Led the computer vision direction, combining hands-on engineering with technical leadership, system design, and direct customer interaction.
- Delivered multiple production-ready computer vision systems for agriculture and logistics, working end-to-end from problem definition to on-site deployment under real-world constraints.

Small Local Business in Serbia
Nov. 2024 - Jun. 2025

Owner / Operator
Novi Sad, Serbia, On-site

- Direct responsibility for running and operating a small business, including hiring, payroll, taxes, cost control, and day-to-day operations.
- Hands-on experience making decisions under financial, legal, and operational constraints, with full accountability for outcomes.

Education

Lomonosov Moscow State University

Bachelor's and Master's Degrees in Computer Science
2012 – 2018

- Faculty of Computational Mathematics and Cybernetics, Graphics and Media Lab.

Publications

Fast Occlusion Filling Method for Multiview Video Generation

A. Khatiullin, M. Erofeev, D. Vatolin.
3DTV Conference, 2018.

Software tool for automatic multiview video generation

A. Khatiullin
Registered software, RF, 2019.