

Vitalii Smolev

Unity / C# Software Engineer

Portfolio: vitaliismolev.com

Unity and C# software engineer with 6+ years of experience delivering B2B interactive 3D products, configurators, enterprise training systems, and custom-hardware solutions. Experienced in Unity WebGL, modular .NET architecture, real-time 3D interaction, computational geometry, custom ECS, API integration, and performance optimization.

Professional Experience

Unity / C# Software Engineer

Ceramic3D | November 2025 - September 2026

Developed a production B2B 3D furniture product configurator for retail planning using Unity WebGL, C#, modular .NET/NuGet, custom ECS, Zenject, MediatR, and protobuf.

- Owned real-time 3D placement improvements spanning computational geometry, collision validation, interaction logic, and integration.
- Designed graph-based domain behavior for configurable assemblies and the lifecycle of connected and generated entities.
- Held end-to-end feature ownership for a major product module, serving as its primary technical owner and domain expert across architecture, delivery, integration, and production support.
- Improved developer productivity across a 70+ repository modular .NET codebase by resolving NuGet conflicts and automating local module composition.

Unity Software Engineer

NAN Agency | May 2024 - June 2025

- Led end-to-end development of an interactive digital-sandbox installation, from software architecture and prototyping through deployment.
- Built a computer-vision pipeline for an Orbbec depth camera using Unity DOTS and Burst Compiler, processing input in under 16 milliseconds while maintaining 60 FPS.
- Developed compute shaders and a procedural mesh-generation system with the Unity Jobs System to visualize terrain changes from real-time depth data.

VR Unity Software Engineer

HQSoftware | June 2022 - January 2024

- Developed enterprise VR training modules and interaction systems for aviation and medical customers within a large-scale modular simulation platform.

AR/VR Unity Developer

Innopolis University | November 2019 - October 2021

- Architected a multi-user HoloLens application for surgical assistance using Photon PUN and Azure Spatial Anchors, with large glTF medical models delivered through gRPC and Keycloak authentication.
- Developed an AR quality-control prototype for KAMAZ using Android and Vuzix Blade, and a VR driving-exam prototype for the GIBDD using Oculus SDK.

Middle Java Developer

Mobile TeleSystems (MTS) | November 2018 - November 2019

- Integrated passport-scanner and camera SDKs into a Java/Spring kiosk application for automated identity verification for kiosks deployed nationwide.

Additional publications & projects

MuseBeat: Experience Real-Time Music Generation in Sync with Heartbeat. (CHI EA '18)

Alpha MR Robot Control (contract project): Developed a Unity application for real-time telemetry and control of a KUKA robotic arm using ROS, gRPC, and NATS.

Contacts

Phone

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E-mail

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Telegram

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Technical Skills

Core Expertise

B2B interactive 3D,
Unity/C#, real-time systems,
Modular architecture,
Performance optimization

Languages

C#, C++, Python

Platforms & Hardware

HoloLens 1/2, Meta Quest, Vuzix
Blade, MRTK, VRTK, Oculus SDK,
OpenXR, Depth Cameras

Architecture

Modular .NET/NuGet systems,
Custom ECS, Zenject, MediatR,
protobuf, Addressables, GitLab CI

Geometry & Computer Vision

Polygon clipping, Minkowski
operations, CSG, OpenCV,
procedural mesh generation

Frameworks & Libraries

Unity: DOTS, Burst Compiler, Jobs
System, URP, Shader Graph, VFX
Graph, compute shaders,
UniTask, UniRX/R3, DOTween
XR: MRTK, VRTK, Oculus SDK,
OpenXR, Azure Spatial Anchors
Networking & Integration:
REST APIs, WebSockets, gRPC,
NATS, Photon PUN, Azure Spatial
Anchors, Keycloak, Docker, Git

Education

Master of Software Engineering
at Innopolis University | 2023

Thesis: Efficiency of using AR/VR to
solve tasks in the real world

Bachelor of Information Technology
at Innopolis University | 2018

Thesis: Power balancing of in-game
agents with Artificial Intelligence

Languages

English - C1 - Advanced
Russian - Native

