

DANIIL ROSTOVSKII

Software Engineer | C# | Unity | Python

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PROFESSIONAL SUMMARY

Software Engineer with 6 years designing and delivering complex interactive systems across simulation, game development, and robotics domains. Strong expertise in C# software architecture (ECS/DOTS, Dependency Injection, SOLID principles), REST API integration, database design, and enterprise B2B delivery. Shipped production systems for Lufthansa, Swissport, and DHL; built AI-assisted development tooling on Claude API and MCP; developed computer vision pipelines for robotics on Linux; built and taught with a custom Java game engine. Experienced with .NET, Entity Framework, PostgreSQL, Python, Java, and Unity. Open to C#/.NET, game development, and systems engineering roles.

TECHNICAL SKILLS

Languages: C# (6 years), Python, Java, JavaScript, SQL

Architecture: SOLID Principles, Design Patterns, OOP, ECS (Entity Component System), DOTS (Data-Oriented Technology Stack), Dependency Injection, Behavior Trees, Data-Driven Design, Multithreading, Asynchronous Programming (async/await), REST API, Web API, WebSocket

Frameworks: .NET, ASP.NET Core, Entity Framework, LINQ, xUnit, NUnit, RabbitMQ, Zenject, UniRx, Photon Networking, LiteNetLib, ROS, FMOD, Obi Physics

AI & LLM: Claude API, MCP (Model Context Protocol), Prompt Engineering, RAG, Agentic Workflows, Voice Pipelines (ASR/TTS)

Databases: PostgreSQL, SQLite

Game & Simulation: Unity 3D, Unity 6, URP, HDRP, Burst Compiler, C# Job System, Unity Physics, Addressables, Timeline, Animator Controller

Platforms & SDKs: AWS, Android NDK, OpenXR, Meta Quest SDK, PICO SDK, SteamVR, Linux, Windows

Tools & DevOps: Git, Perforce, CI/CD Pipelines, Agile, Scrum, Jira, Confluence, Unity Profiler

PROFESSIONAL EXPERIENCE

AVIAR - Senior Software Engineer Dec 2023 - Present

Training & Simulation Software | aviar.nl

- Lead a team of 5 developers: architectural decisions, technical direction, and code review
- Designed and delivered 10+ interactive training scenarios for enterprise clients (Lufthansa, Swissport, DHL) using Unity 6, URP, and DOTS/ECS architecture
- Architected host-authoritative state replication over LiteNetLib with a custom binary protocol: the instructor station runs zero simulation and rebuilds rendering, audio, and UI from keyframe and delta encoded snapshots, with late-join and reconnect support
- Shipped desktop, mobile (Android/iOS), and WebGL clients from a single codebase, adapting the custom DOTS world bootstrap to each target runtime
- Integrated REST API and Web API services for real-time analytics, online licensing verification, and third-party platform connectivity; designed PostgreSQL schemas for training session data and user management
- Cut VR frame time from 18ms to 13ms on Meta Quest standalone hardware, combining LOD group redesign with foveated rendering and Asynchronous Spacewarp to hold stable 72 FPS

- Built an AI-assisted development pipeline on Claude API: 3 MCP servers validate agent-generated code against compilation results, Unity console logs, NUnit tests, and StyleCop static analysis across a codebase of 50k indexed symbols
- Implemented Firebase Analytics for user activity tracking; identified underutilized features and shifted development focus accordingly, reducing wasted engineering effort on low-impact functionality
- Wrote unit and integration tests using xUnit and NUnit, validating simulation logic and core system behavior
- Designed cross-platform plugin architecture bridging Java and C# via Android NDK; reverse-engineered USB HID protocol to enable native force feedback device support, eliminating EUR 1,000+ per-station hardware dependency
- Built custom action-based behavior tree framework integrated with DOTS/ECS for autonomous NPC agents and vehicles with NavMesh navigation
- Engineered custom inverse kinematics (IK) systems and Contacts Modification API for physics-based mechanical simulations

PromVR - Lead Unity C# Developer May 2023 - Dec 2023

Industrial Safety Training Software | promvr.net

- Led a cross-functional team of 4 developers and 2 designers; managed task distribution, code reviews, and technical decision-making across the full project lifecycle
- Architected unified codebase consolidating 12 independent simulator products using Zenject dependency injection, enabling modular multi-client delivery from a single codebase
- Built automated CI/CD pipeline supporting multi-platform compilation on a dedicated build machine, reducing manual build effort and deployment errors
- Designed and implemented a licensing system with online/offline verification via REST API integration with Bitrix24 CRM; PostgreSQL for license and user data management
- Developed JSON-based scenario configuration system with runtime loading, enabling non-technical staff to author training content without code changes
- Led delivery of 12 safety compliance training modules for major oil and gas industry clients
- Conducted code reviews and enforced coding standards across the team within Agile workflow

Ultralab - Unity C# Developer Oct 2022 - May 2023

Interactive Software & Game Development | ultra.vc

- Led all engineering as the sole developer in a cross-functional team (level design, sound, QA, community management), shipping a complete roguelike tower defense game from concept to public release with 10K+ downloads
- Architected full ECS implementation managing hundreds of simultaneous entities at 72 FPS using Burst Compiler and C# Job System
- Implemented custom Boids algorithm for coordinated swarm AI movement with ECS-based pathfinding
- Built analytics pipeline tracking 150+ playtest sessions (retention, session length, difficulty spikes); iteratively refined UX based on quantitative metrics

Varwin - Unity C# Developer Aug 2021 - Aug 2022

Enterprise Simulation Platform | varwin.com

- Designed and implemented 40+ API extensions for a visual programming SDK (Blockly + Unity backend), expanding the platform library by 25% for 90+ enterprise clients across 24 countries
- Built retail analytics application with REST API data ingestion, heatmap visualization, PostgreSQL storage, and Excel-based reporting for Jacobs (JDE)
- Optimized client application performance from 72 to 90 FPS through profiling, draw call reduction, and LOD implementation

- Delivered 4 major client projects: railway maintenance simulator, Naval Museum 360-degree virtual tour, Auchan retail shopping simulation
- Authored 100+ page SDK documentation for public developer portal covering API reference, architecture patterns, and development workflows

Earlier Experience (2014-2021)

Freelance Software Developer – Developed computer vision systems on Linux: robotic arm manipulation for autonomous checkers gameplay; CV-based automated security surveillance system; remote control systems for mobile robots. Stack: Python, ROS, SQLite, Arduino, Raspberry Pi, ESP32.

Game & Mobile Developer (Upwork) – Client-server casual games, Android applications, gamification platforms.

Programming Instructor – Designed and delivered Java and Python development courses for high school and university students; mentored students through building complete projects from scratch.

PROJECTS

SKENGINE - Custom 2D Game Engine (Java) | [GitHub](#)

Built a full-featured 2D game engine from scratch using only standard Java APIs (no external libraries). Implements: software rendering pipeline, entity-component system, scene management, collision detection, 2D animation with buffering, input handling, asset loading, and audio. Designed as the primary teaching tool for "Java for Beginners" programming course for high school and university students; students built complete space-shooter games on the engine.

reAbell VR Alpha - Space action shooter for Meta Quest (Unity, C#) | [Meta Store](#)

JANKERMAN - VR shooter/tower-defense roguelike for Oculus Quest 2 (Unity, C#) | [itch.io](#)

EDUCATION

B.Sc. Applied Informatics – MIREA Russian Technological University, Moscow (2016 - 2020)

Japanese Language Studies – Tokyo Nichigo Gakuin (Tokyo Nihongo Gakuin), Saitama, Japan (Oct 2024 - Present)

LANGUAGES

English: C1 Professional Working Proficiency

Japanese: N4 Conversational

Russian: Native