Ivan Murzak

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SUMMARY

AI engineer and senior software developer with 15+ years building performance-critical real-time systems. Specializes in **LLM integration**, **AI agent tooling**, and developer infrastructure. Creator of **Unity-MCP** (*1.2k+ GitHub stars*) — an open-source platform exposing 100+ tools to AI agents via the **Model Context Protocol**, enabling Claude, Cursor, and other LLMs to autonomously operate the Unity Editor and runtime. Ships production AI systems: agent assistants, MCP servers, RAG pipelines, and structured LLM outputs on Amazon Bedrock and Microsoft Azure AI Foundry.

CORE SKILLS

- **Languages:** C#, Python, Java, C++, Ruby, Bash/PowerShell
- **AI / LLM Systems:** MCP development, advanced JSON Schema generation, RAG & vertex embeddings, PyTorch
- **Backend / Systems:** Docker, Kubernetes, distributed systems, API design, async/concurrency
- **DevOps / DevEx:** CI/CD, CLI workflows, packaging/distribution, documentation, versioning
- **3D Graphics / Physics / Unity:** rendering optimization, performance optimization, physics simulation

OPEN SOURCE — GitHub/IvanMurzak

"AI Game Developer" — IvanMurzak/Unity-MCP (1.2k ★)

- Designed and implemented an **MCP server** exposing Unity Editor and runtime to LLM tool-calling; architected the protocol layer for structured commands and predictable, typed outputs.
- Built **100+ MCP tools** for asset, scene, and component manipulation; used **C# reflection** to dynamically discover and expose the Unity API, eliminating per-tool registration boilerplate.
- Integrated **Roslyn** for in-process dynamic C# compilation and execution, enabling code generation and testing at editor or game runtime without a full build step.
- Implemented **stdio and HTTP transports** with Docker support; maintained versioned releases and managed compatibility across Unity versions.

EXPERIENCE

Senior Software Engineer — Mirrorscape   Mar 2024 – Feb 2026

- Built **Fallout Factions** for Android XR; shipped AI agent assistant and MCP tools for in-game interactions.
- Developed a **networked multiplayer synchronization system** using SignalR.
- Owned UI implementation across the full project.

Senior Software Engineer — Branch Technologies   Mar 2023 – Aug 2023

- Built tutorial system using **multi-layer state machines** with dynamic variables and undo/rollback.
- Developed animated UI framework with interruption-safe navigation.

Senior Software Engineer — Diveo Media   Mar 2021 – Mar 2023

- Reduced build size by ~**90%** through asset pipeline optimization without sacrificing quality.
- Built a custom **normal map generator** from 2D images for puzzle content.
- Instrumented analytics tracking engagement; contributed to growth to ~**250K DAU**.

Senior Software Engineer — HappyFunCorp   Mar 2021 – Mar 2023

- Sole engineer for end-to-end delivery of an interactive narrative experience on iOS/Android.

- Built narrative engine with branching storylines, rollback, and device-sensor effects (gyroscope parallax).

Senior Software Engineer — 3D Generation GmbH   Feb 2020 – Nov 2021
- Sole engineer for iOS/Android Unity app powering a multi-step 3D scanning workflow.
- Built resilient REST client, 50+ UI screens, and a complex UI state machine.

Founder & Senior Software Engineer — Tap Top Fun   Jul 2018 – Feb 2020
- Founded studio; shipped hyper-casual mobile titles owning architecture, implementation, and release.

Senior Software Engineer — ShowMeBiz Ltd   Feb 2019 – Nov 2019
- Built VR UI and server-driven data flows for a "Street View–like" VR travel/conference app.
- Coordinated team execution with partial team-lead responsibilities.

Founder & Senior Software Engineer — Wet Fish   Jun 2013 – Oct 2018
- Shipped **Evil Cogs** (5M+ downloads), owning architecture, gameplay systems, and performance.
- Implemented real-time physics (rigid body, collision resolution) and managed publishing/marketing.

Co-Founder & Lead Software Engineer — Capitan Inc   May 2015 – Apr 2016
- Built Android + Wear OS shared shopping list app with offline-resilient REST sync and conflict resolution.
- Added push notifications and location-based reminders ("near store" triggers).

Co-Founder & Lead Software Engineer — Latio Inc   Jan 2014 – Jun 2015
- Built Android app using iBeacon/BLE proximity for targeted restaurant offers; developed third-party SDK.
- Implemented analytics, push notifications, and beacon distance estimation with signal smoothing.

Software Engineer — EPAM Systems   Feb 2012 – Jun 2013
- Contributed to Yandex Music Android: secure playback, encryption, headset controls, and home-screen widget.
- Contributed to Coca-Cola London Olympics app: multi-layer parallax rendering and interactive physics.

Software Engineer — SysIQ, Inc.   Dec 2011 – Feb 2012
- Contributed features to a node-based e-commerce storefront engine.

RESEARCH & EARLY TECHNICAL WORK

- **Early neural-network research (ML)** — Designed custom digital neuron models for artificial neural networks in collaboration with a medical university and a neurophysiology researcher.
- **Aerodynamic shape optimization (evolutionary algorithms)** — Built an optimization framework and visualization tools.
- **GPU-accelerated data compression (CUDA)** — Designed and implemented GPU-parallel compression/decompression; contributed to a patent/publication.
- **Autonomous robot navigation (computer vision + reinforcement learning)** — Implemented sensor fusion and an OpenCV pipeline; used reinforcement learning for maze-navigation decision-making.

EDUCATION

M.S. in Computer Science / Computer Systems Engineering — Vinnytsia National Technical University, Ukraine (2010–2015)