

Oskaras Margevicius

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Gameplay and tools programmer specialising in C++ and Unreal Engine 5. GradEX 2025 award winner in Tools and Systems for an AI system built on pathfinding, EQS and vector maths, and Technical Lead on two team projects where I owned the C++ architecture and the Git workflow. My strongest work sits where gameplay systems meet performance: multi-agent simulation, procedural tooling, and profiling with Unreal Insights until the frame budget holds. I now also ship real-time 3D on the web with React Three Fiber, which keeps the rendering and optimisation practice sharp outside the engine. **Full right to work in the UK; no sponsorship required.**

Core Competencies

- **Languages:** C++, C#, Python, Lua, JavaScript, TypeScript.
- **Engines & Tooling:** Unreal Engine 5 (C++, Blueprints, Unreal Insights profiling, Niagara VFX), Unity, React Three Fiber, Three.js.
- **AI & Gameplay Systems:** behaviour trees, Environment Query System, A pathfinding, hierarchical state machines, swarm intelligence, perception systems, dynamic response logic.
- **Tools & Simulation:** procedural content generation, spline-based editor tooling, multi-agent traffic and crowd simulation, 3D vector and geospatial mathematics.
- **Workflow:** Git/GitHub, Perforce, Jira, Linux, performance profiling and optimisation, agentic development with Claude Code.

Selected Projects

- **Miasma Ashlung: Technical Lead** **GradEX 2025 Award Winner**
Unreal Engine 5 ■ C++ ■ EQS ■ Niagara 2025
 - Directed the C++ architecture and Git workflow for a nine-week extraction horror game, delivered by a full collaborative team. Selected for the GradEX 2025 Showcase as a team entry.
 - Engineered the hazard and enemy AI using pathfinding, Environment Query System and advanced vector mathematics. Extracted as a standalone tool, it won an award in Tools and Systems at GradEX 2025 as an individual entry.
 - Profiled and optimised physics, audio-reactive AI and Niagara VFX with Unreal Insights to hold the target frame budget.
- **Adaptive Boss Battle System: Dissertation** 2025
Swarm Intelligence ■ Hierarchical State Machines
 - Designed an adaptive encounter system measured at 91.7% player satisfaction, 83.3% replay rate and 58.3% recognised adaptive behaviour in user testing.
 - Built seven coordinated enemy types with a complete pipeline covering behaviour, animation, combat and VFX.
- **Road Builder & Traffic System: Editor Tool** 2024
C++ ■ Procedural Generation ■ A Pathfinding*
 - Built a custom C++ class and spline-based editor tool for procedural urban environment generation.
 - Engineered a multi-agent traffic system with A* pathfinding and obstacle detection, then cut trace-call cost with timer-based scheduling to hold performance in dense simulations.

- **Forgive Me Not: Technical Lead** 2024
C++ Tasks ■ Services ■ Perception
 - Architected enemy behaviours using C++ Tasks, Services and a perception system.
 - Built the core gameplay systems (objectives, interaction, health and damage, weapons and abilities) plus procedural camera animation and player mechanics.

Professional Experience

- **Impact Academies and Camps** UK
Game Programming Teacher 2025–Present
 - Teach game development alongside GCSE and A-Level Computer Science, across Unreal Engine, Unity (C#), Roblox Studio (Lua), Python and JavaScript.
 - Manage and mentor teaching assistants and introduced new procedures for tracking student technical development. DBS checked.
- **Zoltrack** UK
Founder & Developer 2026–Present
 - Run a web development studio; shipped five production applications in six months (692 commits) alongside full-time teaching.
 - Includes atelier3d.co.uk, a real-time 3D storefront on React Three Fiber and Three.js optimised to hold frame rate on mobile hardware.
- **Gourmet Coffee Bar & Kitchen** UK
Store Manager 2021–2026
 - Promoted to manager after 3.5 years part time through A-Levels and university; raised the Google rating from 3.9 to 4.4 and ran recruitment and training for the team.

Education

- **University of Staffordshire** UK
BSc (Hons) Computer Games Development 2022–2025

Specialised in C++, Unreal Engine 5, AI programming, game systems and procedural content generation. Achieved 95% in Senior Collaborative Development as Technical Lead.

Awards

- **GradEX 2025 award winner, Tools and Systems** for The Miasma System, an individual entry. Miasma Ashlung was selected for the same year's Showcase as a team entry.

Languages

- English (fluent), Lithuanian (native), Russian (conversational).

Additional Information

- Builds and tunes custom PC hardware (10+ systems) with a working knowledge of where real-world performance bottlenecks actually sit.
- Independent property manager since the age of 18, holding a 4.8/5.0 guest rating over 90+ reviews alongside study and work.

References

- Available upon request.