



DANIEL NECESAL

Lead Software Developer

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PROFESSIONAL SUMMARY

Highly motivated Lead Software Developer (6+ years) specializing in Unity/C# development, C++, and performance optimization for interactive applications. Proven success leading cross-functional teams and utilizing rapid prototyping techniques (incl. AI tools) to deliver engaging user experiences. Eager to apply expertise in 2D and 3D software development and optimization to cutting-edge technologies.

PROFESSIONAL EXPERIENCE

Senior Unity Software Engineer

TOMPLAY (Nov 2024 – Present) | Remote, Switzerland

- Led the architectural redesign of the core Score Sheet Player module and overhauled large-scale Unity project structure (UI Toolkit, modular systems), enhancing maintainability and user experience across Mobile, Desktop, and WebGL platforms.
- Engineered significant UI rendering and data processing optimizations using mesh baking, object pooling, and multithreading (Unity Burst/Jobs), measurably improving performance on resource-constrained devices.
- Enhanced native C++ audio engine components to address performance bottlenecks and integrate new features.
- Leveraged AI development tools (e.g., Copilot, ChatGPT) for rapid feature prototyping, code generation, and accelerating adoption of new technologies relevant to interactive experiences.
- Mentored fellow developers on software engineering best practices, Unity development patterns, and performance optimization strategies.
- Collaborated effectively in a fully remote setting with cross-functional teams (audio engineers, UI/UX designers, PMs, leadership) using Agile (Scrum/Kanban) methodologies.
- Developed internal tooling to accelerate development iteration cycles, facilitate CEO-driven feature experimentation, and support A/B testing initiatives.

Lead Software Engineer

MINDMAZE (2022 – Oct 2024) | Lausanne, Switzerland

- Developed a new Health Software in compliance with IEC 82304-1, IEC 62304, and ISO 13485.
- Lead 5 major user-facing projects from breakdown to launch in a cross-functional team.
- Ported main product to Android and optimized its performance for low-end hardware.
- Modified and maintained a C++ Zoom Sdk integration with C# communication layer.
- Took ownership of a large Unity project, managing project dependencies and project structure.
- Developed medical SW in an Agile team, focusing on code reviews, testing, and documentation.
- Analyzed and prioritized client feedback for driving improvements and meeting user needs.
- Developed a CI pipeline with Jenkins to automate testing and deployment.

Unity Mobile Game Developer

TINYSOFT (2021 – 2022) | Brno, Czech Republic

- Developed campaign mode and level sharing framework for [SandBox: Sand Pixel Simulator](#), boosting user engagement by 50% over 3 months in user retention driven development.

Indie Unity Game Developer

BROTAGONISTS (2020 – 2022) | Brno, Czech Republic

- Co-founded indie game studio, developing and publishing [Octomancer - Octopus Adventure](#).
- Developed multiplayer system based on Firebase cloud and procedural level generation.

Unity and Python Instructor

ICT PRO & SKILLMEA (2020 – 2022) | Brno, Czech Republic

- Conducted in-person and [online courses](#) for [Python](#) and [Game Development in C#/Unity](#).

Microoptics Engineer

École polytechnique fédérale de Lausanne (2019) | Lausanne, Switzerland

- Created a [holographic microscope and its controller](#) for studying microlenses. [Published paper](#).

EDUCATION

Physical Engineering and Nanotechnology, Master of Engineering

Brno University of Technology (2015 – 2020) | Brno, Czech Republic

- Developed a [microscope controller in Python](#) for scanning near-field optical microscope.

LANGUAGES

English (Fluent, C2), **German** (Beginner, A2), **French** (Beginner, A1), **Czech** (Native)

SKILLS

Proactive Problem Solver: Identifies and resolves inefficiencies with innovative solutions, enhancing project success and productivity through critical thinking and technological adaptation.

Interdisciplinary Collaborator: Integrates diverse perspectives to drive cohesive project development and foster innovative solutions, excelling in uniting technical and creative teams.

Optimistic Visionary: Inspires with a forward-looking approach and resilience, transforming challenges into opportunities for innovation and team excellence.

NOTABLE PERSONAL PROJECTS

VoxelPainter

- **GitHub:** [Voxel Painter GitHub Repository](#)
- **Explanation video:** [Code Vibes - Voxel Painter](#)
- **Download Link:** [Voxel Painter](#)
- Developed a 3D Voxel Painting tool within Unity, focusing on real-time mesh generation, compute shaders, and performance optimization for interactive editing.

Smart Rooms: Procedural Level Generator & Room Builder

- **Demo:** [Smart Rooms Demo](#)
- **Unity Store:** [Smart Rooms: Procedural Level Generator & Room Builder](#)

Thinking with Portals VR

- **Demo:** [Thinking with Portals VR](#)

Octomancer

- **Demo:** [Octomancer](#)

TECHNICAL SKILLS

- **Languages:** C#, Python, TypeScript, JavaScript, PowerShell, Kotlin, HLSL, C++, SQL, C
- **General Skills:** Leading Projects, Agile, Medical Software Regulatory Documentation
- **Technical Skills:** Full Stack Development, SW Architecture, TDD, Scrum, Kanban, Data engineering, Cloud computing, UI Development, VR, Graphical Optimization, Compute Shaders, 2D/3D Vector Math, Automated Testing and Deployment, CI/CD automation, AR, MR, VR, Performance Profiling & Optimization
- **Tools and frameworks:** Git, .NET, Rider, Jenkins, Firebase, GitHub, Azure, Atlassian Suite, Miro, Figma, Lucid, Blender, Photoshop, CapCut, Unity, Unreal Engine, Copilot, Stable Diffusion, Matrix Requirements, SVN, Markdown, Inno Setup, NUnit, UniTask, async, AI, Unity Burst, Multithreading, Unity Jobs, Cursor, Gemini/Gpt/Claude
- **Web technology:** Node.js, Vue.js, ASP.NET, Django, HTML, CSS, MongoDB, REST APIs

DETAILS

- Driving license A + B
- Holder of Permis B (UE/AELE)
- Modded Technical Minecraft Connoisseur