Marcell Horváth

Senior Software Engineer



I build software close to the metal.

Native apps, the C++ cores under them, and the GPU code that makes them look right.

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What I do

I make apps and the engines behind them. Most days that means native iOS and Android in Swift and Kotlin, or C++ that several platforms share. When I have time, I'm in my own engine, trying to get light and terrain to look the way they do outside.

Apps

Right now I'm rebuilding **Shri Jyoti Star**, a long standing professional desktop application by Vedic Software, as native apps for iOS, macOS and Android, all running on one shared C++ core.

Earlier I built **NetDoktor**, apps that doctors and patients use, connected to Hungary's national health system. I also co-founded **Lexunit**, a small software and AI agency.

My engine

Neutron is my own game engine. It runs on Mac, iPhone, Android and the web, has its own editor, and draws through Metal, Vulkan and WebGPU behind one interface. It's where I do my research.

The part I like most is **terrain you can dig into**: dual marching cubes on the GPU, with live sculpting, sharp edges and detail levels that join without seams. Around it I've worked on **global illumination** with ray traced light probes and reflections, a **physical sky** with planets you can fly down to from orbit, soft shadows, temporal anti-aliasing, light through leaves and dense fields of grass.

I've also measured what Apple's **tile based GPUs** really give an engine, and moved the shader codebase from Metal to **Slang**.

Games

Games are how I started. I've published **five games of my own** on Google Play, each on an engine I wrote, and I did gameplay and graphics for **World Rescue**, a UNESCO funded game, at ZU Digital. I keep prototyping tycoon, colony and space ideas, and my real games will show up here when they're out.

How I work

I like small teams, clear problems and work I can own from start to finish. These days I build a lot with AI agents as my development team, and I keep the architecture in my own hands.

Experience

Now

Lead App Engineer

Vedic Software, contract · 2024 – now

Rebuilding the Shri Jyoti Star desktop app natively in SwiftUI and Jetpack Compose over one shared C++ core, with offline sync and automated store releases.

Founder

Own products · 2024 – now

A C++ calculation engine on Cloud Run, two consumer apps and a booking site with payments.

Engine Developer

Neutron, my own game engine · 2026 – now

C++ on Metal and Vulkan: GPU terrain sculpting, materials, atmosphere and an editor.

Apps and teams

Senior Flutter Engineer

Plentific, London, contract · 2022 – 2024

Two property management apps: secure chat, offline sync, biometric login and invoicing.

Lead Flutter Engineer

INSPYRE Informatics, contract · 2021 – 2022

Led the app team from kickoff to delivery: estimates, architecture and reviews. Our apps included Mindspa and Gambless, two mental health apps on both stores.

App Designer and Developer

Dericom · 2018 – 2020

The NetDoktor doctor and patient apps, connected to the national health system.

Co-founder and Mobile Lead

Lexunit · 2017 – 2018

A software and AI agency, where I led mobile development.

Graphics and games

Unity and Graphics Developer

ZU Digital · 2016

Premium mobile games, including the UNESCO funded World Rescue.

3D Graphics Programmer

Kishonti · 2015

A cross platform GPU benchmark on OpenGL, OpenGL ES and DirectX 11.

C++ Software Developer

Leopoly · 2014

GUI logic and an editor for a 3D sculpting app, and GPGPU research.

Indie Game Developer

2012 – now

Five Android games, on my own Java and C++ engines and on Unity.

Education and languages

Computer Science

Budapest University of Technology and Economics

Computer graphics, GPGPU and software architecture.

Languages

Hungarian, native. English, professional working.

Let's build something

Remote, with on site visits when needed.

Or email hello@horvmarcell.com