
Michael Pohoreski

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I have 14+ years of programming in the video game industry having shipped 10 games on the following platforms: PC, PlayStation 1 & 2, Nintendo DS, Apple 2, and Wii; additionally I have worked on the PS3, PSP, Vita, Xbox360, and Xbox Series S/X platforms. My roles have included Technical Lead, Engine, Game play, and Tools programmer.

I am passionate about graphics, optimization, User Interface, frame rate, and Data-Oriented Design.

I would love to bring my skills to your company!

Technical Skills

Specialties	Graphics, optimization, UI/UX design & implementation
Languages/APIs	C++, GLSL, HLSL, JavaScript, C, OpenGL & ES, WebGL, Win32, OpenMP, CUDA
Skills	UE5, Git, Visual Studio, Perforce, Vim, Photoshop, UGS, Blender, Substance Painter

Work Experience

- 2022-2024 **Senior Graphics Programmer**, ArenaNet (*Project Moon*)
- Implemented custom UE5 plugins for Raymarching and Performance gathering.
 - Wrote compute shaders (Watermark, Raymarching, Voxel Processing).
 - Communicated with artists and wrote Art Guidelines for best practices.
 - Established client side reporting metrics, parsed and analyzed CSV metrics.
 - Wrote and updated internal Confluence pages for workflows.
- 2019-2022 **Senior Graphics Programmer**, Linden Research Inc. (*Second Life*)
- Implemented Physically Based Rendering (PBR) with IBL (Image Based Lighting).
 - Performance analysis integrating RAD Game Tools' *Telemetry* then *Tracy* profiler.
 - Maintained and fixed legacy OpenGL rendering code base.
 - Worked with 3rd party developers to submit and merge patches back upstream to SL.
- 2011-2019 **Senior UI Developer**, Comcast
- Worked on *Xfinity Stream Beta App* for SmartTVs, Tablets, STBs in JavaScript.
 - Next generation UI engine which involved researching, designing and implementing:
 - WebGL 1.x rendering pipeline to augment DOM, easing animation system (21 dimensions, Signed Distance Field font rendering and texture atlas.
 - C++ OpenGL ES rendering engine for embedded Broadcom 742x systems.
 - Wrote JavaScript minification C++ toolchain and debugged minified code.
 - Logged telemetry using Localytics, Splunk and internal backend systems.
 - Ran Splunk queries and did analysis of logs.
 - Communicated with team about git, git bisect, history of graphics, and telemetry.
 - Helped colleagues with Xbox 360 streaming app. in C#; ported to PS3.

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- 2009-2011 **Senior Software Engineer**, Sony Computer Entertainment of America
- Analyzed code and assembly, fixed bugs, and added features to PS3, Vita and PSP C++ compilers for developers. Presented road map of tools and debugger usage to game developers. Ported *Bullet* (open source physics library) to PSP.
- 2008-2009 **Senior Software Engineer**, Majesco Studios (*Wonder World*, *Our House*)
- Developed C++ in-house game engine for Nintendo DS including UI, font rendering, save game; optimal palette usage; wrote conversion tools; scripting of version control for assets, build system for multiple SKUs.
- 2006-2008 **Senior Software Engineer**, Papaya Studios (*Disney Princess*, *George of the Jungle*)
- C++ Wii in-house game engine architecture and implementation for CPU and GPU:
 - Ported PS2 game engine to Wii; CPU profiling, vector & matrix optimizations.
 - Implemented subset of OpenGL, GPU profiling, full frame VFX, projected shadows, movie shaders, full frame and per object glow (bloom), implemented 8-bit palettized textures with 32-bit CLUT using 4 TEV stages, optimized 2-bone skinning, dynamic lighting using *Havok* physics middleware, swizzled textures.
 - C++ PS2 rendering fixes, per object glow, VU and GS analysis, 4-bone skinning.
- 2003-2006 **Independent Computer Consultant**
- Produced catalog using InDesign and Photoshop; purchasing advice for hardware.
- 1999-2003 **Senior Software Engineer**, Cyberlore Studios (*Majesty*, *Risk*)
- C++ PS2 development of in-house rendering engine before using “*RenderWare*”.
 - Implemented projected texture shadows using “*RenderWare*” middleware.
 - Integrated “*Multistream*” middleware sound and streaming library.
 - Optimizations: CDROM/DVD loading into EE memory, movie memory usage.
 - Gamepad, memory card, and timer support.
 - Implemented Particle Systems, math optimizations for vectors, matrices, and quaternions.
 - Random Number Generator conformance.
 - Extended in-house scripting language to control 3D units and camera for cutscenes.
 - Wrote a PC renderer engine using D3D8 replacing *SurRender* D3D5 middleware.
- 1997-1998 **Senior Software Engineer**, Appleton Industrial Software
- Designed & implemented Real-Time handwriting recognition in C++ for WinNT 4.0.
- 1996-1997 **Teaching Assistant**, Simon Fraser University
- CMPT 001: Computers and the Activity of People.
 - CMPT 098: Computers, Applications and Programs; graded final exams.
- 1995-1996 **Junior Software Engineer**, Electronic Arts Canada (*Need For Speed*)
- Implemented UI, profiling, memory usage & crash analysis, and memory card support on *Need For Speed* (PS1).

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Education

Bachelor of Science, Computing Science, 1997
Simon Fraser University, Burnaby, BC, Canada

Personal Projects

- WebGL shaders at <https://www.shadertoy.com/user/MichaelPohoreski>
 - [*HOWTO: Ray Marching*](#),
 - [*Font: Bitmap vs SDF*](#).
- [*Buddhabrot*](#) – OpenMP (done) and CUDA (Work-in-Progress)
- [*CRC Demystified*](#)
- [*HGR Font Tutorial*](#)
- [*Nanofont 3x4*](#) (World's smallest 3x4 readable font)
- [*Permutations and Combinations for Programmers*](#)

Open Source Projects

- *AppleWin* – Open source Windows Apple IIe emulator (Debugger & Video)