

# Tiago Costa

[tiagovcosta.com](http://tiagovcosta.com) | [tiago.costav@gmail.com](mailto:tiago.costav@gmail.com) | +351 968 797 459

**BACKGROUND** | Tiago Costa is a real-time graphics/engine programmer born in Portugal in 1993. He received his BSc degree in Computer Science from Universidade do Porto in 2014. He's been interested in games programming, more specifically in real-time graphics, since about 2008.

He's up-to-date on, state of the art, real time rendering techniques including physically based lighting, shadows and post-processing effects. He's always looking for ways to improve performance by making efficient use of the cache using carefully designed data layouts.

**PROJECTS** | **Aqua Game Engine** (2013 – Present)  
<http://www.tiagovcosta.com/aqua> (v0.5 - open source)

Features include:

- Data Oriented and easily extensible design
- Physically based rendering
- Tiled deferred lighting
- Cascaded shadow maps
- Dynamic time of day
- Bloom and tone mapping
- Depth of field
- Volumetric lighting
- Large terrain rendering
- Cache friendly data layouts
- PhysX integration

**MAIN SKILLS** |

- Solid 3D graphics theory and math knowledge
- Strong C/C++ programming skills
- In-depth knowledge of Direct3D11 and HLSL
- Good knowledge of CPU and GPU architectures
- Low-level game/graphics engine programming experience
- Strong code and data optimization skills
- Strong debugging skills
- Multi-threaded programming experience
- Basic SIMD (SSE) programming experience
- Compute Shader (GPGPU) programming experience
- Languages: C/C++, HLSL, x86 Assembly, Lua, Javascript, Python, Haskell, Java, C#, HTML
- Strong written and verbal communication skills

**EDUCATION** | **Universidade do Porto**, Portugal  
Bachelor of Computer Science (2011-2014)