Tiago Costa

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BACKGROUND

Main interests include real time photorealistic rendering, machine learning, game engine development, ray tracing, optimization and software engineering in general.

Over 3.5 years professional programming experience in top technology companies. Responsible for the design, implementation and optimization of state of the art rendering techniques and core tech.

EXPERIENCE

Software Engineer – Apple
February 2019 – Present

Graphics Programmer – Rockstar North
December 2017 – January 2019

Junior Graphics Programmer – Rockstar North
August 2015 – December 2017

MAIN SKILLS

- Solid 3D graphics theory and math knowledge
- Strong C/C++ programming skills
- In-depth knowledge of Direct3D11/12, Metal and Gnm
- Experience with PS4 and Xbox One development
- Low-level game/graphics engine programming experience
- In-depth knowledge of CPU and GPU architectures
- Strong code and data optimization skills
- Strong debugging skills
- Multi-threaded programming experience
- Strong machine learning and neural networks knowledge
- 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

PROJECTS

Aqua Game Engine (2013 – 2015)
http://www.tiagovcosta.com/aqua (open source)

Designed and implemented the engine architecture, with a focus on excellent performance using cache friendly data layouts.

Implemented many state of the art rendering techniques, including tiled deferred lighting, physically based shading, temporal AA, cascaded shadow maps, volumetric lighting, screen space reflections, depth of field, motion blur and tone mapping.

Development has continued in private since 2015 (details provided on request).

EDUCATION

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