

Pierre Mézières

PhD Student in computer graphics



International publications

- Recursive analytic spherical harmonics gradient for spherical light

Pierre Mézières, Nicolas Mellado, Loïc Barthe, Mathias Paulin
In Computer graphics Forum (Presented at Eurographics 2022)

- Harmonics Virtual Lights: fast projection of luminance field on spherical harmonics for efficient rendering

Pierre Mézières, François Desrichard, David Vanderhaeghe, Mathias Paulin
In Computer graphics Forum 2022

- Efficient spherical harmonic shading for separable BRDF

Pierre Mézières, Mathias Paulin
In ACM Digital Library (Presented at Siggraph Asia 2021)

More information on pierremezieres.github.io

Education

Since Oct.
2019

PhD thesis / [STORM](#) - IRIT / Université Paul Sabatier Toulouse

- Lighting modeling and simulation for real-time spherical harmonics based rendering.
- Advisor: [Pr. Mathias Paulin](#).

From 2017 to
2019

Master Degree - Computer Graphics and Image Analysis / [Université Paul Sabatier](#) Toulouse

- Computer graphics: rendering, geometry, animation.
- Image analysis and processing.
- Major of promotion. I received the [CIMI](#) excellence scholarships for both years.

From 2014 to
2017

Licence Degree in computer science / [Université Paul Sabatier](#) Toulouse

- Graduated with honors.
- Major in the second and third year of the licence.

Portfolio

Design of a real-time 3D engine "Rogue" (C++/OpenGL)

- Creation from scratch started during my master's degree.
- Oriented efficient prototyping for rendering.
- Main development platform for my PhD thesis.

Moment Based Rendering (C++/OpenGL)

- Implementation and comparison of six methods to compute shadows and transparency in real-time to highlight the moment-based rendering.
- Second year master project realized in group.

See more on pierremezieres.github.io

Date of birth 11/25/1996

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Profile

PhD Student in computer graphics at IRIT (Institut de Recherche en Informatique de Toulouse). My PhD thesis focus on an efficient use of the spherical harmonics applied to real-time shading.

My current contributions cover direct and indirect lighting, including a little bit of differentiable rendering. An efficient use of the spherical harmonics for differentiable rendering sounds like a solid and promising avenue of research.

Research interests

- Efficient rendering
- Spherical Harmonics
- Global illumination
- Differentiable rendering

Common use

- C / C++
- OpenGL
- glsl / hlsl
- Python

Other

Tennis, Bicycle, Piano, Drums,
Saxophone, Video games...