# GIACOMO NAZZARO

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## EXPERIENCE

**Ph.D. student** 2018 - now

*Sapienza, University of Rome*
Research in computer graphics, under the supervision of Prof. Fabio Pellacini.

**Graduate researcher** 2017

*Sapienza, University of Rome*
Development of a physically based volumetric path tracer for a research code-base.

## PUBLICATIONS

**DecoSurf: Recursive Geodesic Patterns on Triangle Meshes** ongoing review

*G. Nazzaro, E. Puppo, F. Pellacini*

In this work, we show that may complex patterns can be generated directly on surfaces by the recursive application of few simple operators, based only on geodesic distances. Using this formulation, we present an interactive application for designing complex patterns on 3d models. We support interaction on commodity hardware with meshes of a few million triangles, by combining light data structures and a novel graph-based geodesic solver.

**Yocto/GL: A Data-Oriented Library for Physically-Based Graphics** STAG 2019

*F. Pellacini, G. Nazzaro*

Yocto/GL is a C++ library for computer graphics research and education. Its minimalistic design and data-oriented programming style makes it readable, extensible, and efficient. We developed Yocto/GL to meet our need, as a research group, of a simple and reliable code-base to experiment on research projects of various kind and is now publicly available.

## EDUCATION

**MSc in Computer Science** 2016 - 2018

*Sapienza,* Rome 110/110 *with honors*

**BS in Applied Mathematics** 2013 - 2016

*Tor Vergata,* Rome 110/110 *with honors*

## PROJECTS

**Real-time rendering of clouds**
System for real-time rendering and modeling of clouds, developed for a video game company.

**CSP solver**
A simple, self-contained, constraint satisfaction problem solver in C++.

**Serialize**
Header-only library for binary serialization of arbitrary data structures.

## SKILLS

Development

**C++, Python, GPU shaders, OpenGL**
*Confidence with high performance code, data-oriented design and object-oriented programming.*

Computer graphics

**Rendering, Geometry processing**
*Experience with light transport algorithms, Monte Carlo methods and real-time rendering.*

Computer science

**Data structures, Numerical methods**
*Strong knowledge of computer science fundamentals and mathematical tools.*