

Curriculum Vitae

of Filippo Maggioli (Ph.D. Student in Computer Science)

ABOUT ME:

I am a Ph.D. student at *Sapienza - University of Rome*, and I am part of the GLADIA research group under the supervision of professor Emanuele Rodolà.

I am a *Computer Graphics* enthusiast, and this makes me love to explore any related field, from *Geometry Processing* to *Procedural Shading*.

I strongly believe that knowledge is not modular and made of compartments. Instead, I deem that many connections exist, not only between fields of the same area but also between entirely different disciplines. I put a lot of effort into finding these correlations and trying to make my works the most interdisciplinary as possible.

For the same reason, I also like to span other research areas in Computer Science. Other fields that fascinate me are *Linear Algebra*, *Numerical Simulations* and *GPU Algorithms*.

I am a staunch supporter of hardcore programming, and I like my code well organized and strongly optimized. I firmly believe in the open-source paradigm and like contributing to the vast community whenever I can.

ACADEMIC APPOINTMENTS:

Postdoctoral Researcher
Sapienza - University of Rome

Aug 2023 - Present

EDUCATION:

Università degli Studi di Roma - "La Sapienza"
Ph.D. Student in Computer Science

Nov 2019 - Sep 2023

King Abdullah University of Science and Technology
Ph.D. Visiting

Sep 2022 - Jan 2023

Università degli Studi di Roma - "La Sapienza"
Master's Degree in Computer Science

Jan 2018 - Jul 2019

Degree Score: 110 with honours / 110

Università degli Studi di Roma - "La Sapienza"
Bachelor's Degree in Computer Science

Sep 2014 - Dec 2017

Degree Score: 110 with honours / 110

ACADEMIC RECORD:

Avvio alla Ricerca

2020

Sapienza - University of Rome

Research grant for young researchers and Ph.D. students.

Avvio alla Ricerca

2021

Sapienza - University of Rome

Research grant for young researchers and Ph.D. students.

Teaching Assistant

2021

Sapienza - University of Rome

Teaching assistant role for the undergrad course *Introduction to Algorithms*.

STAG 2021 Session Chair

Oct 2021

STAG 2021: Smart Tools and Applications in Graphics 2021

Chairing of the *Rendering* session at STAG 2021.

Strassen's Algorithm in Practice

May 2022

Sapienza - University of Rome

Invited talk about efficient implementations of Strassen's Algorithm for matrix multiplication in practical applications.

Avvio alla Ricerca

2022

Sapienza - University of Rome

Research grant for young researchers and Ph.D. students.

PUBLICATIONS:

SBML2Modelica: Integrating Biochemical Models within Open-Standard Simulation Ecosystems

Bioinformatics - Oxford Academic

Filippo Maggioli, Toni Mancini, Enrico Tronci

Nov 2019

Orthogonalization of Fourier Polynomials for Signal Approximation and Transfer

Computer Graphics Forum

Filippo Maggioli, Simone Melzi, Michael Bronstein, Maks Ovsjanikov, Emanuele Rodolà

May 2021

Efficiently Parallelizable Strassen-Based Multiplication of a Matrix by its Transpose

International Conference on Parallel Processing (ICPP)

Viviana Arrigoni*, Filippo Maggioli*, Annalisa Massini, Emanuele Rodolà

Aug 2021

Spectral Unions of Partial Deformable 3D Shapes

Computer Graphics Forum

Luca Moschella, Simone Melzi, Luca Cosmo, Filippo Maggioli, Or Litany, Maks Ovsjanikov, Leonidas Guibas, Emanuele Rodolà

Apr 2022

Newton's Fractals on Surfaces via Bicomplex Algebra

ACM SIGGRAPH Posters

Filippo Maggioli, Daniele Baieri, Simone Melzi, Emanuele Rodolà

Aug 2022

MoMaS: Mold Manifold Simulation for Real-Time Procedural Texturing

Computer Graphics Forum

Filippo Maggioli, Riccardo Marin, Simone Melzi, Emanuele Rodolà

Oct 2022

A Physically-inspired Approach to the Simulation of Plant Wilting

ACM SIGGRAPH Asia Technical Papers

Filippo Maggioli, Jonathan Klein, Torsten Hädrich, Emanuele Rodolà, Wojtek Pałubicki, Sören Pirk, Dominik L. Michels.

Dec 2023