

# Curriculum Vitae

## of Filippo Maggioli, Ph.D. in Computer Science

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### **ABOUT ME:**

I am a Postdoctoral researcher at *University of Milano-Bicocca*, under the supervision of professor Simone Melzi.

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.

Google Scholar ID: [VN1fbwUAAAAJ](#)

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### **ACADEMIC APPOINTMENTS:**

**Postdoctoral Researcher**  
*University of Milano-Bicocca*

Dec 2023 - Present

**Postdoctoral Researcher**  
*Sapienza - University of Rome*

Aug 2023 - Nov 2023

### **EDUCATION:**

**Sapienza - University of Rome**  
*Ph.D. Student in Computer Science*

Nov 2019 - Sep 2023

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

Sep 2022 - Jan 2023

**Sapienza - University of Rome**  
*Master's Degree in Computer Science*  
Degree Score: 110 with honours / 110

Jan 2018 - Jul 2019

**Sapienza - University of Rome**  
*Bachelor's Degree in Computer Science*  
Degree Score: 110 with honours / 110

Sep 2014 - Dec 2017

## **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.

## **SELECTED PUBLICATIONS:**

### **Orthogonalization of Fourier Polynomials for Signal Approximation and Transfer**

May 2021

*Computer Graphics Forum*

Filippo Maggioli, Simone Melzi, Michael Bronstein,

Maks Ovsjanikov, Emanuele Rodolà

### **MoMaS: Mold Manifold Simulation for Real-Time Procedural Texturing**

Oct 2022

*Computer Graphics Forum*

Filippo Maggioli, Riccardo Marin,

Simone Melzi, Emanuele Rodolà

### **A Physically-inspired Approach to the Simulation of Plant Wilting**

Dec 2023

*ACM SIGGRAPH Asia Technical Papers*

Filippo Maggioli, Jonathan Klein, Torsten Hädrich,

Emanuele Rodolà, Wojtek Pałubicki, Sören Pirk,

Dominik L. Michels.

## **OTHER PUBLICATIONS:**

### **SBML2Modelica: Integrating Biochemical Models within Open-Standard Simulation Ecosystems**

*Bioinformatics - Oxford Academic*

Filippo Maggioli, Toni Mancini, Enrico Tronci

Nov 2019

### **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