









FEDERICO MELONI

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CONTACTS

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OTHER LINKS

Bachelor's thesis:
[Implementing Topological Sheet Operators in Hexahedral Meshes for the Cinolib Library](#)

Master's Thesis:
[Advancing Volumes: A Tetrahedral Mesh Generation Method](#)

ABOUT ME

Born in Cagliari in 1998, I developed an early interest in electronics through computers and video games. During my studies, I focused on topics related to CG and HCI. Outside of work, I am passionate about basketball, music, cinema, games and photography.


MY RESEARCH


I started studying Computer Graphics during my bachelor's thesis and then delved deeper into the subject during my master's degree. During my PhD, I am continuing on this topic, focusing on algorithms for bijective volumetric maps.

STUDIES

- 2017

University of Cagliari


 **Bachelor Degree in Computer Science**


 Thesis in Computer Graphics:
Implementing Topological Sheet Operators in Hexahedral Meshes for the Cinolib Library

2020

Cagliari
- 2020

University of Cagliari


 **Master Degree in Computer Science**

 Thesis in Computer Graphics:
Advancing Volumes: A Tetrahedral Mesh Generation Method

2023

Cagliari
- 2023

University of Cagliari

 **PhD Student in Computer Science**

2026

Cagliari

TECHNOLOGIES

During my university studies, I delved into both procedural imperative programming and object-oriented programming. I also had the opportunity to tackle numerous algorithms and data structures.

Some of the languages I have had the chance to use:



Below are some of the tools I have used the most:



For my research, I develop my projects in C++ using CinoLib, an open source geometry processing library.



EXPERIENCES

- 02/2020

University of Cagliari

 **Intern Student (Computer Graphics)**

 Study, research, and implementation of computer graphics algorithms for managing volumetric meshes within the CinoLib library (C++)

09/2020

CG3HCI Lab. - Research Group
- 03/2022

University of Cagliari

 **Research fellow**

 Project "RAPPRESENTAZIONE DI DATI AMBIENTALI INDOOR E OUTDOOR TRAMITE TECNICHE DI COMPUTER GRAPHICS E INFORMATION VISUALIZATION" within the TDM project

08/2022

CG3HCI Lab. - Research Group
- 09/2022

University of Cagliari

 **Teaching assistant - Video Game Design (lab module)**

 Basic concepts of video game design and development with Unity Engine (lessons and exercises)

02/2023

Bachelor's degree in Computer Science
- 09/2022

University of Cagliari

 **Teaching assistant - Programming 1 (lab module)**

 Imperative procedural programming and the C language (lessons and exercises)

02/2025

Bachelor's degree in Computer Science
- 03/2023

Fondazione Mondo Digitale

 **Educator in high schools for the Coding Girls and Ital-IA Lab. project.**

 Design of application prototypes, HCI concepts, introduction to AI and generative AI


12/2025


Various High Schools in Cagliari

PUBLICATIONS

- 2023

CEUR WORKSHOP PROCEEDINGS, 2023


 **AR TutorialKit: an Augmented Reality Toolkit to Create Tutorials**

 F. Meloni, A. Perniciano, G. Cerniglia, V. Frau, L.D. Spano

 Presented at IS-EUD 2023
- 2024

SMART TOOLS AND APPLICATIONS PROCEEDINGS, 2024

 **To What Extent Are Existing Volume Mapping Algorithms Practically Useful?**

 F. Meloni, G. Cherchi, R. Scateni, M. Livesu

 Presented at STAG 2024