FEDERICO MELONI

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CONTACTS

📍 Cagliari,
Sardinia, Italy

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🌐 GitHub
Google Scholar

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

Updated CV as of November 2024

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
📍 Cagliari
2020

2020
University of Cagliari
🎓 **Master Degree in Computer Science**
📒 Thesis in Computer Graphics:
Advancing Volumes: A Tetrahedral Mesh Generation Method
📍 Cagliari
2023

2023
University of Cagliari
🎓 **PhD Student in Computer Science**
📍 Cagliari
2026

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++)
📍 CG3HCI Lab. - Research Group
09/2020

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
📍 CG3HCI Lab. - Research Group
08/2022

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)
📍 Bachelor's degree in Computer Science
02/2023

09/2022
University of Cagliari
🧑‍💻 **Teaching assistant - Programming 1 (lab module)**
🔧 Imperative procedural programming and the C language (lessons and exercises)
📍 Bachelor's degree in Computer Science
02/2025

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
📍 Various High Schools in Cagliari
12/2025

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
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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
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