Curriculum Vitae – Luca Garau

Personal Information

Luca Garau
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I have a Master Degree in Computer Science, with a specialization in the Graphics and Vision track, focusing on Artificial Intelligence, Computer Graphics, and Geometry Processing.

Education

Master's Degree in Computer Science | University of Cagliari | 2023–2025
Graduated with the grade of 100 cum laude in Computer Science (Graphics and Vision track), with a thesis titled *"Classification and Robust Management of Triangle Intersections Using Alternative Numerical Representations"*, focused on the development of a novel approach for detecting and classifying triangle intersections independently of the underlying numerical representation system.
Supervisor: Dott. Gianmarco Cherchi

Bachelor's Degree in Computer Science | University of Cagliari | 2021–2023
Graduated with 110 cum laude with a thesis titled *"An AI Approach to EEG-based Emotion Recognition using a Consumer Device"*, based on the recognition of emotions via EEG signals using a Machine Learning approach.
Supervisor: Prof. Daniele Riboni.

EG PhD School | Eurographics | 2024
PhD School on Modern Computer Graphics: AI Techniques for 3D Reconstruction, Rendering, and Analysis.

Samsung Innovation Campus | Samsung Electronics Italia SPA | 2021
Completed the Samsung Innovation Campus course with top grade (30L), focused on the Internet of Things. Organized by Samsung Electronics Italia in collaboration with the University of Cagliari.

Experience

Research Fellow | University of Cagliari | 2025–present
Research grant with the Department of Mathematics and Computer Science (DMI) of the University of Cagliari in Computer Graphics and Geometry Processing.

Research Fellow | University of Cagliari | 2024–2025
Research grant with the Department of Electrical and Electronic Engineering (DIEE) of the University of Cagliari on the analysis of mesh coding configurations for adaptive streaming of immersive contents in virtual reality environments.

Teaching Assistant of Database | University of Cagliari | 2024–present
Assistance with laboratory lessons aimed at teaching the SQL language.

Teaching Assistant of Numerical Methods | University of Cagliari | 2023–present
Lecture support and lab assistance for the course of Scientific Calculus and Numerical Methods. The course covers fundamentals of numerical analysis, linear algebra, function approximation, nonlinear equation solving, and includes practical exercises in Matlab.

Publications

Luca Garau, Riccardo Scateni, and Gianmarco Cherchi. Triangle-triangle intersections with different numerical representations. In 2025 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW), pages 401–404 | 2025
Short paper presented at the ReDigiTS 2025 workshop for the IEEE VR 2025 conference. The paper discusses a work-in-progress on a robust tool for intersection detection independent of the representation system used.
DOI: 10.1109/VRW66409.2025.00092

Luca Garau and Gianmarco Cherchi. A robust approach to detect intersections between triangles with different numerical representations. In International Conference in Central Europe on Computer Graphics,Visualization and Computer Vision'2025 (WSCG) | 2025.
Full paper presented at the WSCG 2025 conference. The paper introduces a novel and robust approach for detecting and classifying triangle intersections, along with a C++ header-only tool released as open-source software.
DOI: 10.24132/CSRN.2025-7

Conferences Attended

EICS | 2024
The 16th ACM SIGCHI Symposium on Engineering Interactive Computing Systems, 24–28 June 2024, Cagliari, Italy

STAG | 2024
Smart Tools and Applications in Graphics, 14–15 November 2024, Verona, Italy

IEEE VR | 2025
The 32nd IEEE Conference on Virtual Reality and 3D User Interfaces, 08–12 March 2025, Saint-Malo, France
presented: *Triangle-triangle intersections with different numerical representations*

WSCG | 2025
International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision, 26–29 May 2025, Pilsen, Czech Republic
presented: *A robust approach to detect intersections between triangles with different numerical representations*

Skills

Operating Systems: Windows, Unix/Linux, macOS.
Programming Languages: Python, C, C++, C#, Java, Matlab, SQL.
Languages: Italian (mother tongue), English (fluent).