

# Antonio Scardace

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## EDUCATION

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### PhD in Computer Science

October 2025 - November 2028

University of Catania

Supervisor: Professor Daniele Ravi

Research focus: Multimodal generative AI for Disease Progression Modeling of neurodegenerative diseases; Deep generative models memorization detection and quantification.

### Master's Degree in Computer Science

October 2023 - July 2025

University of Catania

Grade: 110/110, cum Laude

Thesis: "Optimised CDS: Enhancing Efficiency in Approximate and Exact Matching"

Algorithms research activities under Professor Simone Faro.

Medical AI research activities under Professor Daniele Ravi.

### Bachelor's Degree in Computer Science

October 2019 - March 2023

University of Catania

Grade: 110/110, cum Laude

Thesis: "Efficient Text Sampling Approach for Exact and Approximate Matching"

Algorithms research activities under Professor Simone Faro.

## PUBLICATIONS

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- **2026:** [A. Scardace](#), L. Puglisi, F. Guarnera, S. Battiato, and D. Ravi, "A Novel Metric for Detecting Memorization in Generative Models for Brain MRI Synthesis," IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2026), doi:10.1109/WACV61042.2026.00377.
- **2024:** F.P. Marino, S. Faro, and [A. Scardace](#), "Practical Implementation of a Quantum String Matching Algorithm," Workshop on Quantum Search and Information Retrieval (QUASAR 2024), doi:10.1145/3660318.3660327.
- **2024:** S. Faro, F.P. Marino, A. Moschetto, A. Pavone, and [A. Scardace](#), "The Great Textual Hoax: Boosting Sampled String Matching with Fake Samples," International Conference on Fun with Algorithms (FUN 2024), doi:10.4230/LIPIcs.FUN.2024.13.
- **2021:** S. Faro, F.P. Marino, A. Pavone, and [A. Scardace](#), "Towards an Efficient Text Sampling Approach for Exact and Approximate Matching," Prague Stringology Conference (PSC 2021).

## PEER REVIEWS

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- **2025, 2026:** Peer Reviewer for *Pattern Recognition* (Q1)
- **2025:** Peer Reviewer for *MEDical Image Analysis* (MedIA, Q1)

## EXPERIENCES

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### Scientific and Technical Committee Member

October 2023 – Present

ITACPC - Italian Collegiate Programming Contest

Co-organizing the Italian ICPC, designing online contests to promote Competitive Programming in Italian universities, with a small team of Google SWEs and former Olympiad Committee members.

### Mentee and Ambassador

September 2020 – Present

LeadTheFuture

Representing LTF, a Forbes-recognised non-profit (<13% acceptance rate), pairing talented Italian STEM students with mentors from top institutions like NASA and MIT while promoting giving back.

**Graduate Teaching Assistant****March 2020 – June 2025**

University of Catania

Co-managing a training program for the Italian Olympiad in Informatics, instructing about 30 high school students through 10 annual lectures on algorithms, data structures, and problem-solving.

**Graduate Computer Science Tutor****March 2024 – October 2025**

University of Catania

Supporting students for the “Programming 1”, “Programming 2”, and “Software Engineering” courses across two academic years, with theory lessons, practical sessions, and Q&As.

**HONOURS & AWARDS** 

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- **2024, 2025:** University of Catania - Academic Excellence Scholarship
- **2023, 2025:** University of Catania - Archimede Prize candidature
- **2018:** Winner, Individual Regional Selection - Italian Olympiads in Informatics
- **2018:** Winner, Team Regional Selection - Italian Olympiads in Informatics
- **2017:** Winner, Team National Selection - Italian Olympiads in Informatics

**CERTIFICATIONS** 

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- **2025:** GA Level 2 Certificate in ESOL International – CEFR Level: C1