



Antonio Cruciani

Curriculum Vitae

Contact Information

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GitHub, github.com/Antonio-Cruciani.

LinkedIn, linkedin.com/in/antonio-cruciani-9b7b7083.

Education

2020–Now **Doctor of Philosophy**, *GSSI - Gran Sasso Science Institute*, L'Aquila.

Ph.D., Computer Science

Supervisors: [Prof. Francesco Pasquale](#), [Prof. Pierluigi Crescenzi](#)

2017–2020 **Student**, *University of Rome*, Tor Vergata, *Master's degree*.

Computer Science.

Final mark : 110/110 Cum Laude

Supervisor: [Prof. Francesco Pasquale](#)

Thesis title: Dynamic Random Graphs and unstructured P2P networks, analysis of two models inspired by the Bitcoin network.

Available at the following [link](#)

2011–2017 **Student**, *University of Rome*, Tor Vergata, *Bachelor's degree*.

Computer Science.

Final mark : 92/110

Supervisor: [Prof. Giorgio Gambosi](#).

Thesis title: Efficient learning methods for playlist prediction.

2006–2011 **High School**, *ITIS Montani*, Fermo, .

Qualified Industrial Technician specialization: Information and Technology

Experience

Research

February Now 2020 **Big Data and Information Retrieval**, BIG DATA ANALYTICS LAB AT FONDAZIONE UGO BORDONI , Working on graph mining algorithms for distance functions estimation ([link](#)), compression, clustering, centrality, and ranking algorithms. .
Supervisor: [Giambattista Amati](#)

Teachings and Talks

September 2019 **Workshop Presentation**, *10th Italian Information Retrieval Workshop (IIR-2019)*, Padua.
I presented the joint project with Fondazione Ugo Bordoni about index compression techniques.

June 2019 **Seminar**, UNIVERSITY OF ROME TOR VERGATA, Talk on FPT Algorithms.
I held a seminar about Iterative Compression technique for NP-Hard problems on Graphs.

October 2018 **Teaching Assistant**, UNIVERSITY OF ROME TOR VERGATA, Prof. Miriam Di Ianni.
June 2019 Computability and Computational Complexity Theory
Link to the lessons material (IT) available at the following [link](#)

December 2017 **Teaching Assistant**, UNIVERSITY OF ROME TOR VERGATA, Prof. Gianluca Rossi .
June 2018 Computer programming with laboratory

Work

October 2015 **Developer**, WEDOT, Roma.

January 2016 Software developer for Microsoft platforms, .Net , C# ,Windows Server.

June 2010 **Intern**, NEW SYSTEM, Falerone,Fermo,Marche.

September 2010 Web developer and sysadmin

Publications

Workshops

2021 P. Vocca, G. Amati, S. Angelini, A. Cruciani, G. Fusco, G. Gaudino and D. Pasquini, OASIS 2021, Topic modeling by community detection algorithms

2019 A. Cruciani, D. Pasquini, G. Amati, and P. Vocca, About Graph Index Compression Techniques, Proceedings of the 10th Italian Information Retrieval Workshop (IIR-2019), Padua, Italy, September 16-18, 2019, CEUR-WS.org/Vol-2441/paper23.pdf.

Conferences

2022 A. Cruciani, F. Pasquale, Dynamic graph models for the Bitcoin P2P network: simulation analysis for expansion and flooding time. 24th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), Clermont-Ferrand November 15-17. ([To appear as a Brief Announcement](#))

Advanced Schools

- March 2022 Bertinoro International Spring School 2022 ([link](#))
- September 2021 European Summer School on Learning in Games, Markets, and Online Decision Making ([link](#))
- July-August 2021 Max Planck Advanced Course on the Foundations of Computer Science (Convex Optimization)([link](#))
- May - June 2021 Algorithmic Tools for Massive Network Analytics ([link](#))
- August 2020 Max Planck Advanced Course on the Foundations of Computer Science (Market Design and Computational Fair Division)([link](#))

Advanced Courses

- 2019 Semidefinite Programming and Discrete Optimization. University of Rome: "Tor Vergata". Ph.D. (Computer Science, Control and Geoinformation) course held by [Prof. Angelika Wiegele](#).
- 2019 Natural Distributed Algorithms. University of Rome: "Tor Vergata". Course held by [Dr. Emanuele Natale](#).
- 2019 Algorithms and computational models for large-scale data analysis. University of Rome: "La Sapienza". Ph.D. (Data Science) course held by [Silvio Lattanzi](#).

Certifications

- 2017 [MOOC] Approximation Algorithms by École Normale Supérieure
Massive open online course by ENS on approximation algorithm. Particularly emphasizes algorithms that can be designed using linear programming and semidefinite programming.
- 2017 Machine Learning Specialization by Washington University
Online specialization on machine learning covering: foundations of ML, regression, classification, clustering and retrieval. To see the certification click on the name of specialization
- 2017 Machine Learning By Stanford University
Online course on machine learning, topics: supervised learning, unsupervised learning. To see the certification click on the name of specialization
- 2017 Common European Framework (CEFR) B1

Programming skills

- Basic OWL, SPARQL,FORTRAN,COBOL,LISP
- Intermediate GO,MATLAB,JAVASCRIPT,R,ASP.NET,JAVA
- Advanced PYTHON,JULIA,JAVA,C,C++,C#,SQL,PHP
- Frameworks Apache Spark

Languages

Italian **Mother tongue**

English **Proficient**

Interests

- Graph Mining
- Markov Chains
- Approximate Counting
- Evolving Graphs
- Distributed Computing
- Monte Carlo methods
- Approximation Algorithms
- Random Graphs

Antonio Cruciani June 22, 2022

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