



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

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 **Big Data and Information Retrieval**, BIG DATA ANALYTICS LAB AT FON-
Now DAZIONE UGO BORDONI , Working on MinHash Signature Estimation Algorithms
2020 for Diameter Estimation ([link](#)), Graph Clustering, Centrality, Ranking and delta
encodings. .

Supervisor: [Giambattista Amati](#)

University

September **Workshop Presentation**, *10th Italian Information Retrieval Workshop (IIR-2019)*,
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
June 2019 Ianni.

Computability and Computational Complexity Theory

Link to the lessons material (IT) available at the following [link](#)

December **Teaching Assistant**, UNIVERSITY OF ROME TOR VERGATA, Prof. Gianluca
2017 June Rossi .

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 Web developer and sysadmin
2010

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.

Summer Schools

September European Summer School on Learning in Games, Markets, and Online Decision
2021 Making ([link](#))

July-August Max Planck Advanced Course on the Foundations of Computer Science (Convex
2021 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 **Upper Intermediate**

I have been attending an English school, since February 2020 (My English School).

Interests

- Graph Mining
(focus on dynamic graphs)
- Markov Chains
- Algorithmic Game Theory
- Information Retrieval
- Distributed Computing
- Monte Carlo methods
- Machine Learning
- Property Testing

Antonio Cruciani September 17, 2021

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