



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

### Conferences and Workshops

- 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

- 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	<b>Mother tongue</b>
English	<b>Upper Intermediate</b> I have been attending an English school, since February 2020 (My English School).

## Interests

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

Antonio Cruciani June 3, 2021

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