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 2020 – Now
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 – June 2019
Teaching Assistant, University of Rome Tor Vergata, Prof. Miriam Di Ianni.
Computability and Computational Complexity Theory
Link to the lessons material (IT) available at the following link

December 2017 – June 2018
Teaching Assistant, University of Rome Tor Vergata, Prof. Gianluca Rossi .
Computer programming with laboratory

Work

October 2015 – January 2016
Developer, WeDot, Roma.
Software developer for Microsoft platforms, .Net , C# ,Windows Server.

June 2010 – September 2010
Intern, New System, Falerone,Fermo,Marche.
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 **Fluent**

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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