Claudio Chiappetta

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Research interests

My research interests revolve around the study of complexity in social systems. I use computational methods to investigate how large groups of people behave, crossing boundaries with different disciplines such as sociology, psychology and economy.

Education

Sapienza Universita di Roma`	Rome, Italy
PhD in Physics	2019 – Ongoing

Thesis title: *Towards a data-driven approach for the understanding and policing of urban dynamics*
Supervisor: Prof. Vittorio Loreto

Universita degli studi di MIlano`	Milan, Italy
Laurea Magistrale (MS) in Physics	2016 – 2018

Thesis title: *Modelling the birth and evolution of echo chambers*
Supervisors: Prof. Vittorio Loreto, Dott. Marco Gherardi
Co-supervisor: Dott. Vito D.P. Servedio
Final mark: 110/110 cum laude

Universita degli studi di MIlano`	Milan, Italy
Laurea Triennale (BS) in Physics	2012 – 2016

Thesis title: *Error probability and mutual information in noisy quantum binary channels*
Supervisor: Prof. Matteo G.A. Paris
Co-supervisor: Dott. Stefano Olivares

Publications

"Heterogeneity and Segregation of Mobility Patterns" (2021),

in *"Handbook on Entropy, Complexity and Spatial Dynamics. The Rebirth of Theory?"*, A. Reggiani, L.A. Schintler, D. Czamanski, R. Patuelli (eds)
Edward Elgar Publishing Ltd, Cheltenham, UK, 14 December 2021.

Research experience

Research Fellow	Jan 2019 - Dec 2021

CNR - Istituto di Geologia Ambientale e Geoingegneria (IGAG)
The research project I am working on is part of a large scale effort to improve the efficiency of the Italian emergency response system in case of natural disasters. I manage different activities, ranging from simulating strategies for the rescue

operations in the aftermath of a disaster, to the analysis of large-scale urban data, to the creation of indicators to measure rescue efficiency in different contexts.

<table>
<tr><td>Industry experience</td><td>**Data science Intern**</td><td>May 2020 - Nov 2020</td></tr>
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Anritsu Solutions

I collaborate with Anritsu Solutions in the developement of the eoMind software. I am in charge of studying new algorithms and pipelines for anomaly detection and information mining in telecommunications data streams.

Machine Learning Consultant   Feb 2019 - May 2019

Portfolio123

I led a research project regarding the use of machine learning techniques for portfolio management. After successful results, I am collaborating with them to implement a cloud-based version of this pipeline that will be offered to their end-users.

System administrator   Nov 2016 - Nov 2017

LCM - Laboratorio di Calcolo e Multimedia

I administered the LCM computing cluster (http://lcm.mi.infn.it), composed of a computer laboratory and a batch farm, for a total of around seventy nodes, each running GNU/Linux.

Summer school, LCSAS, Como (IT)   Jul 2021

Events attended

Complex networks and telecommunications

Workshop, CINECA, Bologna (IT)   Nov 2017
Debugging and Optimization of Scientific Applications

Workshop, Intel in collaboration with Adalta e Bayncore, Milan (IT)   Oct   2017
Technical Computing & Artificial Intelligence Workshop

Summer school, CINECA, Bologna (IT)   Giu 2016
25th Summer School on Parallel Computing

Talks, LCM, Milan (IT)   May 2019 - Apr 2018

For two consecutive years I gave talks in my university, the first year explaining basic machine learning techniques and the second year showing how to implement data science methods in python.

Programming Languages

Proficient in: Python, C++, Bash
Familiar with: C, Mathematica, CUDA

Miscellaneous
Familiar with: Git, Docker, Spark, GNU/Linux, L^{A}TEX, Google Cloud/AI Platform, High Performance Computing, Big Data, Machine Learning, Agent Based Modeling

Languages
Italian (Mother tongue), English (Fluent)