

Anna Livia Croella

EDUCATION

- 2018 – present day **PhD Program in Automatics, Bioengineering and Operations Research**, Sapienza University of Rome - Department of Computer, Control and Management Engineering Antonio Ruberti (DIAG)
Research Topic: Combinatorial Optimization, Health Care, Train Scheduling
Advisors: Prof. Carlo Mannino, CNR Researcher Paolo Ventura
- 2015 - 2017 **Master's Degree in Management Engineering**, Sapienza University of Rome
Thesis: Inter-connected Neural Networks for a multi-horizon prediction of time series
Advisor: Prof. Alberto De Santis
Final degree mark: 110/110 cum laude
Graduation date: 26/10/2017
- 2012 - 2015 **Bachelor's Degree in Management Engineering**, Sapienza University of Rome.
Thesis: Use of optimization techniques for a complex production and distribution system: development of metaheuristic algorithms
Advisor: Simone Sagratella, Andrea Manno
Final degree mark: 110/110 cum laude
Graduation date: 23/10/2015
- 2007 - 2012 **High School Diploma in Scientific Studies**, Scientific High School A. Volta, Foggia.
School-leaving examination mark: 100/100

WORK EXPERIENCES

- Jan 2022 - present day **Research fellow on “Optimization and Machine Learning for the Circular Economy as part of the PIPER project - Intelligent Platform for the Optimization of Recycling Operations”**, Sapienza University of Rome - Department of Computer, Control and Management Engineering Antonio Ruberti (DIAG)
- Jan 2021 - present day **Research associate at IASI on “Ottimizzazione, Matematica Discreta e Applicazioni per la Società e l'Industria (OPTIMA)”**, Istituto di Analisi dei Sistemi ed Informatica Antonio Ruberti (IASI)
- Oct - Dec 2021 **Management of Industrial Plants course mentorship activities for a.y. 2021-2022**, Management Engineering Faculty, Sapienza University of Rome

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Jun 21-26 2021	External consultant on “Deployment of machine learning models and optimization methods for the management of passengers public transport systems”, Sapienza University of Rome - Department of Computer, Control and Management Engineering Antonio Ruberti (DIAG)
Dec 2020 - Oct 2021	Mathematical Analysis II course mentorship activities for a.y. 2020-2021, Management Engineering Faculty, Sapienza University of Rome
Sep 02-05 2019	Organizing Committee Assistant for ISSI 2019 - 17th International Conference on Scientometrics & Informetrics, Rome (Italy).
Nov 2017 - Oct 2018	Management Consulting Analyst - Accenture Strategy Rome (Italy) Consulting for two major world wide Italian utility groups: operated and supported the control of a new process-based model for whole Group, developed on Oracle HFM and Tagetik CPM. Internal Talent Strategy project: implemented a back-end model for a analytics forecasting tool. Managed the use of statistical algorithms and machine learning techniques to better predict the future.

PHD VISITING

Mar – May 2020	PhD short-term visiting at Department of Mathematics and Cybernetic of SINTEF Digital Unit, Oslo, Norway <i>Supervisor:</i> Carlo Mannino
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SCHOLARSHIPS

Oct - Dec 2021	Mentorship activities grant for a.y. 2021-2022, Management of Industrial Plants course, Management Engineering Faculty, Sapienza University of Rome
Dec 2020 - Oct 2021	Mentorship activities grant for a.y. 2020-2021, Mathematical Analysis II course, Management Engineering Faculty, Sapienza University of Rome
Mar - Jun 2020	Mobility grant for abroad joint research projects for PhD students (33rd and 34th cycles), Sapienza University of Rome
2018 - present day	PhD Programm Scholarship for PhD in Automatics, Bioengineering and Operations Research (ABRO), Sapienza University of Rome

QUALIFICATIONS AND AWARDS

July 2020	State Exam for Information Engineer (Italian Legislation), Qualification to practice - Sapienza University of Rome
July 2020	24 CFU for anthro-psycho-pedagogical disciplines and in teaching methodologies and technologies, CFU acquisition at Telematic University eCampus

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16 Apr 2018	Post degree recognition prize as one of the 400 outstanding students of Sapienza University of Rome, <i>Giornata del laureato VI edizione</i> – Rome (Italy)
2016 - 2017	Excellence Path of the Management Engineering Master's Degree Program Completion of additional training activities (disciplinary and inter-disciplinary in-depth study, seminars and internship activities) – Sapienza University of Rome

CONFERENCES

Sep 14-17 2021	50th Annual Conference of the Italian Operations Research Society (ODS2021) , Sapienza University Campus, Rome (Italy)
Jul 11-14 2021	31st European Conference on Operational Research (EURO2021) , University of West Attica (UNIWA), Athens (Greece)
Jun 05-10 2021	INFORMS Manufacturing and Service Operations Management Conference (MSOM2021) , Kelley School of Business, Indiana University, Online Participation
Nov 19 2020	International Conference on Optimization and Decision Science (ODS2020) , AIRO Meeting, Online
Feb 24-26 2020	Games, Dynamics and Optimization (GDO2020) , Rome (Italy)
Sep 02-05 2019	ISSI 2019 - 17th International Conference on Scientometrics & Informetrics , Rome (Italy)
21 Jan 2019	DIITET Conference - "Area Strategica Matematica Applicata" , Rome (Italy)

SCHOOLS AND WORKSHOPS

Feb 23-25 2022	6th AIROYoung Workshop on Operation Research and Data Science in Public Services , Rome (Italy)
Sep 03 2021	EURO Working Group on Practice of OR Webminar - Recent developments of real-time train scheduling optimization , Online
Aug 30 - Sep 01 2021	EUROPT Summer School 2021 Robust and Nonsmooth optimization , Online Edition
Feb 08-12 2021	5th AIROYoung Workshop on Optimization and Data Science , Online Edition
May 18 2020	Mixed Integer Programming Workshop 2020 (MIP2020) , Online Edition
Feb 05-07 2020	4th AIROYoung Workshop on New Advances in Optimization, Machine Learning and Data Science , Bozen (Italy)
Jan 20-24 2020	9th Winter School on Network Optimization (NetOpt2020) , Estoril (Portugal)
Jun 25-28 2019	1st MINOA PhD Summer School on Mixed-Integer Nonlinear Optimization Meets Data Science , Ischia (Italy)
Mar 26-29 2019	3rd AIROYoung Workshop + PhD School on Advanced Methods in Optimization and Data Science , Rome (Italy)

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Jul 25-29 2016	Tools and techniques for parallel computing, automatic learning and massive data analysis with MATLAB - <i>Scuola di calcolo scientifico con MATLAB</i> (SCSM), Palermo (Italy)
Jul 18-22 2016	MATLAB and Simulink for scientific calculation - <i>Scuola di calcolo scientifico con MATLAB</i> (SCSM), Palermo (Italy)

PUBLICATIONS

Jan 2022	Disruption management in railway systems by safe place assignment, Transportation Science, https://doi.org/10.1287/trsc.2021.1107 A.L. Croella, V. Dal Sasso, L. Lamorgese, C. Mannino, and P. Ventura
Jan 2022	Multi-criteria optimization scheduling of surgical units: a case study at AOU-Policlinico Umberto I, Technical Report DIAG Sapienza University of Rome A.L. Croella, E.M. Tronci, F. Petitti, A. Nastasi, L. Palagi, and F. Romano

LANGUAGES

Italian (Native)	English (Advanced)	Spanish (Intermediate)
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COMPUTER SKILLS

Software Application:	AMPLide, Azure ML, CCH Tagetik, CPEX, Github, Gurobi, Latex, Microsoft SQL Server, Microsoft Visual Studio, Office Suite, Oracle HFM, Planimate, Simulink
Programming languages:	AMPL, JAVA, Julia, MATLAB, Python, R, SQL, Visual Basic

RESEARCH INTERESTS

My research is mainly focused on the design and implementation of algorithms for solving time-scheduling problems. I am interested in exploiting combinatorial optimization and dynamic programming tools for network re-optimization. Specifically, I am investigating in a train network context the performance of new formulations and models that deal with the time re-scheduling in case of delay in the system.

PERSONAL INTERESTS

I am a passionate, dynamic and curious woman with a strong inclusion capacity in different contexts. I am a very analytic person and I have always had a constant need to challenge my mind and enrich my knowledge. In the last years I realized that my personal fulfilment is long-standing and coupled with learning and research. My hobbies are dancing and reading comics; I have been playing in women's futsal championships at a competitive level for 10 years.

Date: 28/02/2022

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