

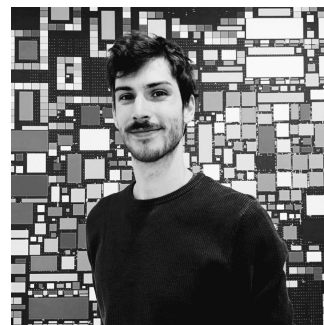
Marco Caoduro

Researcher in Combinatorial Optimization

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Previous Position

- Oct 2019 – **PhD Student in Combinatorial Optimization**,
Oct 2021 *Laboratoire G-SCOP, Univ. Grenoble Alpes*,
Title: *Geometric challenges in Combinatorial Optimization: packing, hitting, and coloring rectangles*.
Supervisors: *András Sebő and Matěj Stehlík*

Preprints

- Aug 2022 **Lower bound for constant-size local certification**, (*accepted at SSS 2022*),
with Virginia Ardévol Martínez, Laurent Feuilloley, Jonathan Narboni, Pegah Pournajafi, Jean-Florent Raymond, arXiv:2208.14229.
- Jun 2022 **Packing, Hitting, and Coloring Squares**, (*submitted*),
with András Sebő, arXiv:2206.02185.
- May 2022 **Independence number of intersection graphs of axis-parallel segments**, (*submitted*),
with Jana Cslovjceksek, Michał Pilipczuk, Karol Węgrzycki, arXiv:2205.15189.
- May 2021 **On the Boxicity of Kneser Graphs and Complements of Line Graphs**, (*submitted*),
with Lyuben Lichev, arXiv:2105.02516.
- Dec 2020 **Packing and coloring r -bounded axis-parallel rectangles**, (*submitted*),
arXiv:2012.13201.

Talks

- Oct 2022 **ACRO Seminar, LIS Laboratory – Université d'Aix-Marseille**,
Title: *Hitting and packing squares*.
- Jul 2022 **11th International Colloquium on Graph Theory and combinatorics (ICGT 2022)**,
Title: *On the Hitting/Packing Ratio of Axis-Parallel Segments*.
- Jun 2022 **Journées de Géométrie Algorithmique 2022**, *French research community in Computational Geometry and related fields*,
Title: *On the Hitting/Packing Ratio of Axis-Parallel Segments*.
- Jan 2022 **Discrete Mathematics Seminar, G-SCOP Laboratory – Univ. Grenoble Alpes**,
Title: *Hitting and packing squares*.
- Nov 2021 **Distributed Algorithms and Graphs, Research Institute on the Foundations of Computer Science (IRIF) – Université de Paris**,
Title: *Hitting and packing squares*.
- Nov 2021 **Journées Graphes et Algorithmes JGA 2021**, *French-speaking community of graph theory and its applications*,
Title: *Hitting and packing rectangles with a bounded aspect ratio*.

Teaching

- Spring 2022 **Algorithms and Data Structure**, Master's degree ENSIMAG, Grenoble INP.
Fall 2021 **Graphs and Applications**, Master's degree PHELMA, Grenoble INP.
Fall 2020 **Algorithms and programming in Python**, Bachelor's degree PCM-int, Department of Science and Technology Licence, Univ. Grenoble Alpes.
Spring 2018 **Operations Research (practical course)**, Bachelor's degree in Applied Mathematics, Università degli Studi di Verona.
Fall 2017 **Stochastic System (practical course)**, Bachelor's degree in Applied Mathematics, Università degli Studi di Verona.

Other experiences

- 19-23 Sep 2022 **Participation to Eleventh Cargèse Workshop on Combinatorial Optimization**, Institut d'Etudes Scientifiques de Cargèse, Corsica (France).
5-8 Dec 2021 **Participation to Stage Label RES**, Univ. Grenoble Alpes,
Topic: Questions about the profession of Maître de Conférences.
20 Oct 2021 – 6 Nov 2021 **Participation to Discrete Optimization Trimester Program**, Hausdorff Research Institute for Mathematics (HIM),
research collaboration with Jana Cslovjeczek, Michał Pilipczuk and Karol Wegrzycki.
13-17 Sept 2021 **Attendance to School on modern directions in discrete optimization**, Hausdorff Research Institute for Mathematics (HIM),
lectures Michał Pilipczuk, Aaron Sidford, Ngoc Mai Tran, and Rico Zenklusen.
May 2021 – Sept 2021 **Supervision of a master's student**, IM²AG, Univ. Grenoble Alpes,
I supervised Thomas Boudier. The topic of the internship was *Edge-coloring problems for geometric intersection graphs*.
6-7 Jun 2020 **Attendance to IPCO Summer School**, London School of Economics and Political Science (LSE),
lectures Santanu S. Dey, Bertrand Guenin, and Laura Sanità.

Education

- Mar 2021 – Sept 2021 **Teaching education**, DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITÀ DEGLI STUDI DI VERONA,
Courses: Teaching Methodology, Pedagogy, Anthropology, Psychology.
Oct 2017 – Sept 2019 **Master's degree in Mathematics, 110/110 with honors**, DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITÀ DEGLI STUDI DI VERONA,
Thesis Title: *Dypergraph connectivity augmentation: an uncrossing approach*,
Supervisors: Giuseppe Mazzuocolo and András Frank.
Feb 2019 – Aug 2019 **Erasmus+ for Traineeship**, EGERVÁRY RESEARCH GROUP ON COMBINATORIAL OPTIMIZATION, ELTE, BUDAPEST.
Sept 2018 – Feb 2019 **Erasmus+ for Studying**, FACULTAD DE MATEMÁTICAS, UNIVERSIDAD DE MURCIA.
Oct 2014 – Sept 2017 **Bachelor's Degree in Applied Mathematics, 110/110 with honors**, DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITÀ DEGLI STUDI DI VERONA,
Thesis Title: *A Markov Chain approach to dependent opinions analysis with residuals treatment*,
Supervisors: Luca Di Persio.
Oct 2009 – Sept 2014 **High School Degree, 100/100**, ISTITUTO OMNICOMPRESIVO G.A. FARINA, VICENZA.

Professional skills

Languages Italian (native), English (fluent), French (fluent), Spanish (intermediate)
Programming \LaTeX , SageMath (intermediate), MatLab (intermediate), Python (intermediate)

Hobbies

Running, yoga, chess, and plant-based cuisine

References

András Sebő (1),
CNRS researcher,
Laboratoire G-SCOP, Univ. Grenoble Alpes,
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András Frank (3),
Professor,
Department of Operations Research, ELTE,
frank@cs.elte.hu.

Matěj Stehlík (2),
Professor,
Laboratoire IRIF, Université de Paris,
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Moritz Muhlenhaller (about teaching),
Maître de Conférence,
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