

CELIA RUBIO-MADRIGAL

 celrm.github.io

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EXPERIENCE

Doctoral researcher – *CISPA Helmholtz Center for Information Security* 2023-now

– Group: Relational Machine Learning Lab . Supervisor: Dr. Rebekka Burkholz.

Teaching assistant / Laboratory demonstrator – *University of Strathclyde* Jan-Apr 2023

– “CS310 Foundations of AI” for Year 3 BSc Computer Science. Lecturer: Dr. Andrew Abel.

EDUCATION

PhD in Computer Science – *Universität des Saarlandes (Saarbrücken, Germany)* 2023-now

MSc in Advanced CS with AI – *University of Strathclyde (Glasgow, UK)* – 8.57/10 (with Distinction) 2023

– Fully funded by “la Caixa” Foundation Postgraduate Fellowship. Earned the Dept. Best Overall Prize.

BSc in Computer Science – *Universidad Complutense de Madrid (Spain)* – 9.16/10 2022

– Secretary of the Computer Science Student Council and member of the Faculty Board 2020-22.

BSc in Mathematics – *Universidad Complutense de Madrid (Spain)* – 9.08/10 2022


PUBLICATIONS

★ GNNs getting ComFy: Community and feature similarity guided rewiring. Celia Rubio-Madrigal*, Adarsh Jamadandi*, Rebekka Burkholz. 13th International Conference on Learning Representations (ICLR), 2025. 

★ Spectral graph pruning against over-squashing and over-smoothing. Adarsh Jamadandi*, Celia Rubio-Madrigal*, Rebekka Burkholz. 38th Conference on Neural Information Processing Systems (NeurIPS), 2024. 

• Rendering string diagrams recursively. Celia Rubio-Madrigal, Jules Hedges. arXiv, 2024. 







• Analysis of a neural network for the identification of complex Boolean functions. Celia Rubio-Madrigal. Bachelor’s thesis at Universidad Complutense de Madrid, 2022. 

• Serialismo y matemáticas (I) , (II) , (III) , and Re-escalando música . Celia Rubio-Madrigal. DivulgaMAT: Música y matemáticas, 2019.



AWARDS

• Best Overall Performance: *CIS Dept. Prize on the MSc in ACS at University of Strathclyde* Oct 2023


• Nova III Student List : *Top 10 talents under 25 in Computer Science in Spain* Mar 2023

- 9th Heidelberg Laureate Forum: *Young Researcher in Mathematics* Sep 2022
– Personal interviews for HLFF Spotlight: 9th HLF  and Tribuna Complutense .
- "la Caixa" Foundation Postgraduate Fellowship : *Fully funded MSc* Jun 2022
– Interviews in national newspapers El País , El Plural , and TV channel TeleMadrid .

Undergraduate studies

- 6th Aula de Verano Blas Cabrera : *Seminar for best undergraduate records in Spain (at UIMP)*
- SWERC contestant : *The 2021 ICPC Southwestern Europe Regional Contest (Milan, Italy)*
- Becas de Excelencia: *Excellence Grants from Com. Madrid for undergraduate students (2100€)*

Pre-undergraduate studies

- Premio Extraordinario de Bachillerato: *Top 25 for this exam in Com. Madrid (1000€)*
- Leading Program "la Caixa": *Top 20 university admission marks in Com. Madrid*
- Baccalaureate of Excellence with Honours: *IES San Mateo – 10/10*
- EGMO contestant : *European Girls' Mathematical Olympiad (Zürich, Switzerland)*
- ESTALMAT: *2-year mathematics talent program for 25 students in Com. Madrid*

PROJECTS


International Mathematics Olympiads – Organization and volunteering 2018-now

- IT at the European Girls' Mathematical Olympiad (EGMO): Slovenia 2023, Georgia 2024, Kosovo 2025.
- Deputy Leader of Spain at EGMO 2022 in Hungary and PAGMO 2021.
- Guide at the Iberoamerican Mathematical Olympiad 2018 in Spain/Portugal.

Departmental collaboration grant – Universidad Complutense de Madrid Nov 2021-Jun 2022

- Grant: Beca de colaboración from Ministerio de Educación at Dept. Software Systems and Computation.
- Identification of boolean functions that need big circuits to be computed, with Ismael Rodríguez Laguna.

Mathematics research grant – Instituto de Ciencias Matemáticas (ICMAT). Sep-Nov 2021

- Grant: Ayudas de introducción a la investigación ICMAT-Severo Ochoa .
- Differential geometry methods in Machine Learning applications, with David Martín de Diego.

\LaTeX package: **ddphonism** – Contained in MiKTeX and TeXLive music bundles 2019

Professional Music Degree in Baroque Recorder – Conservatorio Profesional de Música Arturo Soria 2006-16

LANGUAGES

Spanish – Native

English – TOEFL iBT 110/120 (2021)

German – Goethe-Zertifikat B1 (2017)