

## EDUCATION

### MSc in Advanced Computer Science with Artificial Intelligence

Sep 2022 – Sep 2023

University of Strathclyde

Glasgow, United Kingdom

- Fully funded by a Postgraduate Fellowship from “la Caixa” Foundation. [🔗](#)
- Relevant courses:** Reasoning for Intelligent Agents · Deep Learning Theory & Practice · Game Theory & Multi-Agent Systems

### BSc in Mathematics

Sep 2017 – Jul 2022

Universidad Complutense de Madrid

Madrid, Spain

- Dissertation:** “Search for complex Boolean functions: constructions through monotony, and connection between repetitiveness and endogamy”. Supervisors: Ismael Rodríguez Laguna, Narciso Martí Oliet.
- Activities:** Member of the peer mentoring program at the Faculty of Mathematics.
- Relevant courses:** Linear Algebra · Algebraic Structures · Algebraic Equations · Computational Algebra · Computational Geometry · Linear Geometry · Numerical Methods · Numerical Analysis · Programming Language Theory

### BEng in Computer Science

Sep 2017 – Jul 2022

Universidad Complutense de Madrid

Madrid, Spain

- Dissertation:** “Analysis of a neural network for the identification of complex Boolean functions”. Supervisors: Ismael Rodríguez Laguna, Daniel Loscos Barroso. [🔗](#)
- Activities:** Member of the Faculty Board of Computer Science. Secretary of the Students' Union at the Faculty of CS.
- Relevant courses:** Discrete Mathematics and Mathematical Logic · Fundamentals of Algorithms · Data Structures · Foundations of Computer Languages · Declarative Programming · Concurrent Programming · Artificial Intelligence · Language Processors

## EXPERIENCE

### Departmental collaboration grant

Nov 2021 – Jun 2022

Universidad Complutense de Madrid

Madrid, Spain

- Project:** “Identification of boolean functions that need big circuits to be computed”. Supervisor: Ismael Rodríguez Laguna.
- Grant:** From Ministerio de Educación at the Department of Software Systems and Computation (SIC).

### Mathematics research intern

Sep 2021 – Nov 2021

Instituto de Ciencias Matemáticas (CSIC-ICMAT)

Madrid, Spain

- Project:** “Differential geometry methods in Machine Learning applications”. Supervisor: David Martín de Diego.
- Grant:** Ayudas de introducción a la investigación ICMAT–Severo Ochoa.

### Consultant Developer intern

Jul 2021 – Sep 2021

Guidewire Software

online

- Project:** Search engine for internal issues according to domain-specific input. Tools: Javascript · Node.js · Git · MySQL · HTML

## PROJECTS

### Articles in Music and Mathematics · *DivulgaMAT* (online journal)

Sep 2019 – Dec 2019

- Independent research about the twelve-tone composition system and its mathematical ties to group theory.
- Four published articles: “Serialismo y matemáticas (I)” [🔗](#), “(II)” [🔗](#), “(III)” [🔗](#) and “Re-escalando música” [🔗](#).

### LaTeX package: **ddphonism** · *The Comprehensive TeX Archive Network (CTAN)* [🔗](#)

Aug 2019 – Sep 2019

- $\LaTeX$  package for twelve-tone diagrams, including twelve-tone matrices, clock diagrams and permutation rows.
- Contained in TeXLive and MiKTeX, so you most likely have it installed on your computer.

## LANGUAGES

Spanish · (Native)

English · TOEFL iBT: 110/120 · (Reading: 30/30 · Listening: 30/30 · Writing: 26/30 · Speaking: 24/30) Dec 2021

German · Goethe-Zertifikat B1 · (Lesen: 83/100 · Hören: 80/100 · Schreiben: 79/100 · Sprechen: 90/100) Sep 2017

## CONFERENCES

9th Heidelberg Laureate Forum · HLF Foundation (Heidelberg, Germany) Sep 2022

- Personal interview for their series HLFF Spotlight: 9th HLF "Inspiring Women in STEM – Celia Rubio Madrigal". 

6th Aula de Verano Blas Cabrera · Universidad Internacional Menéndez Pelayo (Santander, Spain) Aug 2022

- Academic seminar for graduates with the best undergraduate records in Spain.

13th and 14th JAE School of Mathematics · ICMAT (Madrid, Spain) Sep 2020 and Jul 2021

- Relevant courses: Bayesian methods in Artificial Intelligence · Machine Learning: foundations, computations and applications

7th International Conference on Mathematics and Computation in Music · UPM (Madrid, Spain) Jun 2019





4th Lambda World Cádiz · An International Functional Programming Conference (Cádiz, Spain) Oct 2018

## ACTIVITIES

Deputy Leader of the Spanish team · Female Mathematics Olympiads (international) Oct 2021 – present

- 2022 European Girls' Mathematical Olympiad (EGMO) in Eger, Hungary.
- 2021 Pan-American Girls' Mathematical Olympiad (PAGMO).

Volunteering at math olympiads · Real Sociedad Matemática Española (RSME) Sep 2018 – present

- Jury at the local phases of the 57th, 58th and 59th Olimpiada Matemática Española (OME) in Madrid.
- Guide at the 23rd Iberoamerican Mathematical Olympiad (IbMO) in La Rábida and Monte Gordo.
- YouTube videos for the math community: "ICMAT Introduction to Research" , "Olympic inspirations" , "Science is written with an A" , and an intervention at the 20th anniversary of ESTALMAT Madrid .

SWERC 2021 Participant · Southwestern Europe Regional Contest by the ICPC (Milan, Italy)  Apr 2022


- Team-based algorithmic Competitive Programming contest in C++.

6th EGMO Participant for Spain · European Girls' Mathematical Olympiad (Zürich, Switzerland)  Apr 2017

Music Conservatory in Recorder · Conservatorio Profesional de Música Arturo Soria (Madrid, Spain) Sep 2006 – Jun 2016

## HONOURS AND AWARDS

Front page for Tribuna Complutense · Universidad Complutense de Madrid (Madrid, Spain) Oct 2022

- Personal interview: "Celia Rubio Madrigal, an example of a woman who succeeds in STEM". 

Becas de Excelencia · Gobierno de la Comunidad de Madrid (Madrid, Spain) 2018 – 2022

- Four times awarded the Excellence Grant for undergraduates (2100€).

Premio Extraordinario de Bachillerato Madrid · Ministerio de Educación (Madrid, Spain) Jul 2017

- Top 25 at the Baccalaureate Extraordinary Award exam in Comunidad de Madrid (1000€)..

University Admission Marks: 13.65/14 · Selectividad · PAU · EVAU (Madrid, Spain) Jun 2017

- "Leading Program LaCaixa": Top 20 admission marks in Comunidad de Madrid.
- Top 100 admission marks at Universidad Complutense de Madrid.

Baccalaureate of Excellence with Honours · IES San Mateo (Madrid, Spain) May 2017