

I am a Mathematics and Physics student at the University of Barcelona, currently in my fifth —and last— year of study. My interests encompass a wide range, from quantum and fluid mechanics to differential geometry and dynamical systems. I am specially intrigued by the geometric description of modern physical theories and phenomena.

EDUCATION

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| I am enrolled in the dual degree programme in Mathematics and Physics, which admits 20 students annually and allows them to pursue both bachelor’s degrees concurrently. | | |
| <i>(Expected)</i> June 2025 Sept. 2020 | University of Barcelona | |
| | Bachelor of Science in Mathematics | GPA: 9.0/10 |
| | <ul style="list-style-type: none">• Bachelor’s thesis (in progress): Yang-Mills Equations and Gauge Theories.• Supervisor: Prof. Ignasi Mundet. | |
| <i>(Expected)</i> June 2025 Sept. 2020 | University of Barcelona | |
| | Bachelor of Science in Physics | GPA: 8.51/10 |
| | <ul style="list-style-type: none">• Bachelor’s thesis (in progress): How Classical Shadows Improve Quantum Learning.• Supervisors: Prof. Bruno Julià, Dr. Artur Garcia. | |

EXPERIENCE

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| <i>Present</i> Sept. 2024 | Barcelona Supercomputing Centre – BSC | |
| | <i>Visiting Student</i> | <ul style="list-style-type: none">• Pursuing my Physics Bachelor’s thesis on quantum computing, with a focus on classical shadows.• Working in the Quantic group.• Supervisors: Prof. Bruno Julià, Dr. Artur Garcia. |
| <i>Present</i> July 2024 | Institute for Research in Biomedicine – IRB | |
| | <i>Research Intern</i> | <ul style="list-style-type: none">• Examined DNA flexibility under damage using a coarse-grained model.• Optimised the model to account for DNA sequential damage.• Devised and implemented new methods to calculate DNA geometric properties.• Supervisor: Prof. Modesto Orozco. |
| Aug. 2023 June 2023 | Centre for Mathematical Research – CRM | |
| | <i>Research Intern</i> | <ul style="list-style-type: none">• Studied transcendental dynamics within the complex exponential family.• Interpreted the results of Robert L. Devaney and Michal Krych for a specific parameter value, providing a full description of the dynamics in this set.• Supervisors: Prof. Núria Fagella, Prof. Xavier Jarque. |

HONOURS AND AWARDS

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| Sept. 2024 July 2024 | Maths4Life Awardee | 1,200 € |
| | <ul style="list-style-type: none">• Awarded with one of the five grants from IRB Barcelona’s Maths4Life Programme to conduct research at the intersection of mathematics and biomedicine. | |
| <i>Present</i> Sept. 2021 | Excellent Performance | 1,500 € |
| | <ul style="list-style-type: none">• Recipient of the University of Barcelona’s honour for exceptional academic performance throughout my university studies. | |

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| Sept. 2021 Sept. 2020 | Honours in Baccalaureate <div> 1,700 € <ul style="list-style-type: none"> Awarded to students with an excellent academic record during their baccalaureate. Full coverage of tuition fees for the first year of university. </div> |
| Oct. 2019 Jan. 2019 | Mad for Science Programme <ul style="list-style-type: none"> Catalunya La Pedrera Foundation developed the Mad for Science Programme to open the doors of the leading research institutes to exceptional High School students. I participated in the Physics course. |

INVITED TALKS

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| Sept. 2024 | Extraordinary BioMed Seminar – Maths4Life 2024 <ul style="list-style-type: none"> In this seminar organised by IRB, I presented my research work undertaken as a summer intern. |
| Aug. 2023 | Barcelona Introduction to Mathematical Research – BIMR 2024 <ul style="list-style-type: none"> Presented the results of my summer internship at CRM to an expert audience. |

LANGUAGES

Spanish Native Speaker
Catalan Native Speaker
English Advanced Level C1

CODING SKILLS

Languages: Python, C, Mathematica, LaTeX, Bash, SageMath.
Libraries: Pandas, SciPy, NumPy, Scikit-learn, Seaborn.
Other: Experience with Unix/Linux and computational modelling.

ADDITIONAL COURSES

- **Python for Data Science and Machine Learning** – Udemy [↗](#)
- **Machine Learning with Python** – Coursera [↗](#)
- **100 Days of Code: The Complete Python Pro Bootcamp** – Udemy [↗](#)

ADDITIONAL INFORMATION

- I am part of **Science Fellows**, an initiative of the Catalunya la Pedrera Foundation aimed at developing STEM outreach activities such as exhibitions in museums and talks in high schools.
- **Private tutor** for students in high school and university (Mathematics, Physics, Chemistry, Computer Science, Statistics, Engineering).