

I am a Physics and Mathematics student at the University of Barcelona, currently in my fourth year of study. My interests encompass a wide range, from quantum mechanics and electrodynamics to differential geometry and dynamical systems. I am also interested in the usage of computational tools to solve complex problems within the fields of science and engineering.


EDUCATION

June 2025 Sep 2020	<div>Bachelor of Science in Physics + Bachelor of Science in Mathematics <i>University of Barcelona</i></div> <ul style="list-style-type: none">- Dual-degree program that offers twenty students annually the chance to pursue concurrent studies in physics and mathematics, resulting in two separate undergraduate degrees after five years, as opposed to the eight years required for individual study.- Grade in Physics: 8.4/10. Grade in Mathematics: 9.0/10.
June 2020 Sep 2018	<div>Technological Baccalaureate <i>Mireia Center of Studies</i></div> <ul style="list-style-type: none">- 1st-ranked student of the class.- GPA: 4.0/4.0

EXPERIENCE

Aug 2023 June 2023	<div>Summer Research Intern <i>Mathematics Research Center, CRM</i></div> <ul style="list-style-type: none">- Worked on a research project centered around transcendental dynamics within the complex exponential family, focusing on the results obtained by Robert Devaney and Michael Krich for a specific parameter value of this family, giving a complete description of the dynamics in this set.- Concluded the internship by giving a talk about these results.- Supervisors: Dr. Núria Fagella, Dr. Xavier Jarque.
July 2023 June 2023	<div>Summer Internship <i>BarcelonaTech</i></div> <ul style="list-style-type: none">- Studied the theoretical and computational methodologies currently used to relate chaotic dynamical systems and a fluid's transition into turbulence.- Supervisors: Dr. Jezabel Curbelo, Dr. Alvaro Meseguer.
Oct 2019 Jan 2019	<div>Mad for Physics Program <i>Catalunya La Pedrera Foundation</i></div> <ul style="list-style-type: none">- Program aimed at first year A-Level students, with special talent and interest in physics, as an introduction to physics research.- Explored the LHC's ATLAS detector, accelerator beam physics, observational cosmology, and quantum computing, among others.

ADDITIONAL COURSES

July 2023 Apr 2023	<div>Python for Data Science and Machine Learning, Udemy</div> <ul style="list-style-type: none">- Implemented various machine learning algorithms, including k-means clustering, linear and logistic regression, random forest and decision trees, SVMs, and neural networks.- Certificate of completion 
-----------------------	---

Jan 2023	Machine Learning with Python , Coursera <ul style="list-style-type: none"> - Learned the fundamentals of machine learning and studied different algorithms, such as linear and logistic regression, SVM, KNN, and decision trees. - Certificate of completion ↗
Dec 2022 June 2022	100 Days of Code: The Complete Python Pro Bootcamp , Udemy <i>Data Science, Automation, Game and Web Development, GUI Creation</i> <ul style="list-style-type: none"> - Developed proficiency in Python programming language through building 100 unique projects over 100 days, including automation scripts, web and app development, data science and machine learning models. - Certificate of completion ↗

AWARDS AND ACHIEVEMENTS

<i>Present</i> Sep 2021	Excellent Performance <div>1,100 €</div> <ul style="list-style-type: none"> - Recipient of the University of Barcelona’s honor for exceptional academic performance during university studies.
Sep 2021 Sep 2020	Honours in Baccalaureate <div>1,700 €</div> <ul style="list-style-type: none"> - Issued by Generalitat de Catalunya to those students with an excellent academic record during baccalaureate.
Oct 2019 Jan 2019	Mad for Science Program <ul style="list-style-type: none"> - Catalunya La Pedrera Foundation has developed the Mad for Science Program to open the doors of the leading research institutes to the most excellent High School students. I participated in the physics course.

LANGUAGES

Spanish	Native Speaker
Catalan	Native Speaker
English	Advanced C1 Level

CODING SKILLS

Machine Learning	Data Visualization	Seaborn
Python	Scikit-learn	NumPy
LaTeX	Pandas	C

VOLUNTEERING AND ACTIVITIES

- **Science Fellows:** initiative of the Catalunya la Pedrera Foundation to develop science communication activities such as expositions in museums and talks in high schools.
- **Problem Solving:** via books and online resources, solving problems is an activity that I perform, enjoy, and continue to learn on a daily basis.