

# MARTÍ PEDEMONTE BERNAT

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## Personal Profile

I am a highly motivated, adaptable, and hard-working individual, very curious and always eager to learn. I enjoy finding answers to unsolved questions, employing rigorous thinking, and acquiring new abilities along the way. I firmly believe that embracing challenges is key to both professional and personal growth, as seen in my experiences at ETHZ and MIT, where I further developed and applied my creative thinking, analytical, programming, and problem-solving skills. I am drawn to the dynamic world of data science, where my analytical and programming skills are key to uncovering insights and driving informed decisions. With a passion for transforming complex information into practical solutions, I am ready to embrace the unique challenges and opportunities this field presents. Outside of work, I find joy in reading, engaging in sports, and travelling to discover new places, cultures, and people.

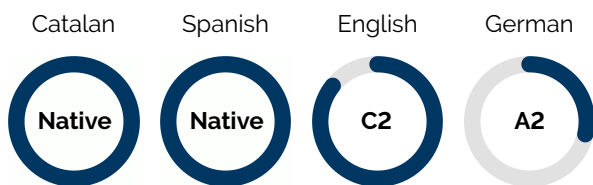
## Experience

- 05/2023 - 12/2023 Research Assistant** - Massachusetts Institute of Technology (MIT)  
• Analysis of decays of the Higgs boson into a photon and a  $\phi$ ,  $\omega$  or  $D^{*0}$  meson. (Python, C/C++, Bash, Data Analysis, ML)
- 09/2019 - 01/2022 Undergraduate Research Assistant** - UB Universitat de Barcelona  
• Study of ITO nanowires on silicon substrates, resulting in co-authorship of a published paper. (Python, Data Analysis)  
• Assembly of an apparatus for producing and detecting polarization-entangled photons. (Python, C, Data Analysis)  
• Development of a ML software to assist in prescribing treatments for a fertility company. (Python, Data Analysis, ML)
- 01/2019 - 02/2020 Data Scientist** - Resistencias Tope S.A.  
• Part-time development of analytical models for estimating the temperatures of molten salts, culminating in a field trip to Abengoa's solar power plant in the Atacama Desert, Chile. (Python, Excel, Data Analysis)

## Education

- 05/2023 - 10/2023 Master's Thesis in Particle Physics** - Massachusetts Institute of Technology (MIT)  
• In rare decays of the Higgs boson into a photon and a  $\phi$ ,  $\omega$  or  $D^{*0}$  meson. **GPA: 5.6/6**
- 09/2021 - 10/2023 MSc ETH in Physics** - ETH Zürich  
• Specialised in Theoretical Physics: QFT, Particle Physics, EFTs and GR. **GPA: 9.3/10**
- 09/2016 - 07/2021 BSc in Computer Science and Software Engineering** - UB Universitat de Barcelona  
• Excellent with honours in 12 courses.  
• Awarded an extraordinary award for outstanding academic performance.  
• Awarded the Joaquim Font Award as the top-ranked student in my graduating class. **GPA: 8.4/10**
- 09/2014 - 07/2020 BSc in Mathematics** - UB Universitat de Barcelona  
• Excellent with honours in 3 courses. **GPA: 8.5/10**
- 09/2014 - 01/2020 BSc in Physics** - UB Universitat de Barcelona  
• Excellent with honours in 7 courses.

## Languages



- 2021-2022 Studied German in the UZH/ETH Zürich Sprachenzentrum.
- 2020 Cambridge's CPE. Grade: 218 (B).
- 2019 TOEFL iBT Test. Grade: 108.
- 2002-2020 Studied English in a Language Center in Barcelona.

## Other Awards

- 2021 La Caixa fellowship to carry out postgraduate studies at ETH Zürich.
- 2011-2014 Kangaroo tests by the Catalan Mathematics Society: 2012: top 1.9%, 2013: top 0.6%, 2014: top 0.7%.

## Technical skills

**Proficient** Python, C++, Bash, Latex, Excel, Java, C.  
**Familiar** HTML+JS+CSS, SQL, Dart&Flutter, R.

## Relevant projects

- 2023 Optiver's Ready Trader Go algorithmic trading competition.
- 2023 Fantasy football player value modelling.
- 2021 Python package to compute causal effect probabilities.

## Additional information

- 2015-2019 Speaker in university orientation sessions in High School.
- 2012-2021 Private teacher for students both in High School and University (Mathematics, Physics, Computer Science, Statistics, Chemistry, Engineering).

