MARTÍ PEDEMONTE BERNAT

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Personal Profile

I am a highly motivated and adaptable individual with a strong curiosity and a passion for learning. My experiences at ETHZ and MIT have enhanced my creative thinking, analytical abilities, programming, and problem-solving skills. I thrive on challenges, viewing them as essential for both professional and personal growth. In the dynamic world of data science, my analytical and programming skills are key to uncovering insights and guiding decisions. I am eager to turn complex data into practical solutions, ready for the field's unique challenges and opportunities. 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 **Massachusetts Institute of Technology (MIT)** - **Research Assistant**
- Analysis of decays of the Higgs boson into a photon and a ϕ, ω or D^{*0} meson. *(Python, C/C++, Bash, Data Analysis, ML)*

09/2019 - 01/2022 **Universitat de Barcelona (UB)** - **Undergraduate Research Assistant**
- 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 **Resistencias Tope S.A.** - **Data Scientist**
- 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)*
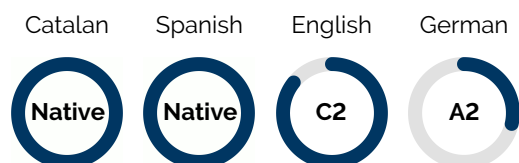
Education

05/2023 - 10/2023 **Massachusetts Institute of Technology (MIT)** - **Master's Thesis in Particle Physics**
- In rare decays of the Higgs boson into a photon and a ϕ, ω or D^{*0} meson.

09/2021 - 10/2023 **ETH Zürich** - **MSc ETH in Physics**   **GPA: 5.6/6**
- Specialised in Theoretical Physics: QFT, Particle Physics, EFTs and GR.

09/2016 - 07/2021 **Universitat de Barcelona (UB)** - **BSc in Computer Science and Software Engineering**   **GPA: 9.3/10**

09/2014 - 07/2020 **Universitat de Barcelona (UB)** - **BSc in Mathematics**   **GPA: 8.4/10**

09/2014 - 01/2020 **Universitat de Barcelona (UB)** - **BSc in Physics**   **GPA: 8.5/10**

Awards

- 2021 La Caixa Fellowship for postgraduate studies at ETH Zürich.
- 2021 Extraordinary Award for outstanding academic performance in the BSc in Computer Science.
- 2021 Joaquim Font Award for being the top-ranked student in my BSc in Computer Science graduating class.
- 2014-2021 Excellent with honours in 22 courses across the three BSc programs at UB.
- 2012-2014 Kangaroo Mathematics Competitions: 2012 - Top 1.9%, 2013 - Top 0.6%, 2014 - Top 0.7%.

Languages

Catalan — Native
Spanish — Native
English — C2
German — A2

Technical skills

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

Additional information

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

Relevant projects

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

github.com/pedemonte96 • pedemonte.xyz