

## EDUCATION

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- **Massachusetts Institute of Technology (MIT)** Cambridge, United States  
*PhD Student - AI and Computer Vision for decision-making advised by Prof. Antonio Torralba* September 2022 - Current
- **Universitat Politècnica de Catalunya (UPC)** Barcelona, Spain  
*Bachelor in Mathematics; 9.53/10 (rank 3)* 2017 - 2022
- **Universitat Politècnica de Catalunya (UPC)** Barcelona, Spain  
*Bachelor in Data Science and Engineering; 9.58/10 (rank 1)* 2017 - 2022

Degrees done concurrently as part of the CFIS-UPC (Centre de Formació Interdisciplinària Superior) program.

- **American School of Barcelona** Barcelona, Spain  
*International Baccalaureate (IB); 9.1/10 (41/45 points in the IB scale)* 2015 - 2017

## PUBLICATIONS

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- **Aliasing is a Driver of Adversarial Attacks** Pre-print - Dec 2022  
*Reducing aliasing increases robustness; combined with robust training out-performs solo robust training on  $L_2$  attacks.*

## WORK EXPERIENCE

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- **Quantitative Trading Intern at Susquehanna International Group** Dublin, Ireland  
*Trading intern in the peripheral index options desk* June 2022-Aug 2022
- **Research Intern at Aspect Capital** London, England  
*Development of Systematic Macro Relative Value investment strategies* June 2021-Aug 2021
- **Collaborating Student at ZeClinics** Barcelona, Spain  
*Development of specialized image processing pipeline incorporating Deep Learning* January 2021-June 2021
- **Co-founder and researcher at Vixnio Technologies** Barcelona, Spain  
*Development and backtesting of deep learning models for quantitative trading* June 2020-May 2021
- **Research Student at Barcelona Supercomputing Center** Barcelona, Spain  
*Using recurrent neural nets (LSTM+AdaptiveLogSoftmax) for synthetic memory trace generation* July 2019-Sept 2019

## TECHNICAL SKILLS

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- **Deep Learning and Computer Vision with the PyTorch Python library**
- **Data processing and Machine Learning with Numpy, Pandas, and Scikit Python libraries**
- **Algorithms and Data Structures in C++**
- **Distributed cluster computing with SLURM (e.g. multi-node distributed training)**
- **Data analysis with the R Statistical Computing Language:** Familiarity with the R language and the R Studio environment, and its application to basic data processing, lm, glm, PCA, CA, and others.
- **Numerical processing with Matlab**
- **Data processing with Excel**

## AWARDS

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- **Aily Labs Best Academic Record Award:** Prize given to the top academic record in the Data Science and Engineering major, funded by Aily Labs
- **Esperanto Technologies Best Academic Record Award:** Prize given to the top three ex-aequo academic records in the CFIS-UPC program, funded by Esperanto Technologies
- **La Caixa Fellow 2022:** Awarded scholarship to pursue graduate studies in the US by the La Caixa foundation

- **Aspect Capital Algothon 2021:** 1st place at the 2021 Algothon, organized by the Imperial College Algorithmic Trading Society and Aspect Capital
- **2021 Spain G-Research Quant-Trading Challenge.:** 1st place at the 2021 Spain G-Research Quant-Trading Challenge
- **HackUPC2019:** 2nd place at the McKinsey Challenge at the HackUPC2019 hackathon
- **CFIS double scholarship:** Academic-based full scholarship given to around 6 freshmen every year at UPC
- **Mathematics Olympiad:** Bronze medal at the 2017 Spanish Mathematical Olympiad

## NON-TECHNICAL SKILLS

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- **English:** Proficiency level (Michigan Test C2) and 118/120 on the TOEFL. Extensive experience in written and oral communication: 7 years of schooling at the American School of Barcelona, high school during 1 year in Los Altos, California, and 1 year as a PhD student at MIT.
- **Strong analytical skills and creative and rigorous thinking:** Ability to think creatively and rigorously when solving problems; trained by proving many mathematical theorems and propositions.
- **Time management:** Strong time management and self-scheduling skills.
- **Spanish and Catalan:** Native level in speaking and writing.