Adrián Rodríguez-Muñoz

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EDUCATION

- **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 Politecnica de Catalunya (UPC)** — Barcelona, Spain
  Bachelor in Mathematics; 9.53/10 (rank 3) — *2017 - 2022*
- **Universitat Politecnica 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 Interdisciplinaria Superior) program.

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

PUBLICATIONS

- **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

- **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

- **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

- **La Caixa Fellow 2022**: Awarded scholarship to pursue graduate studies in the US by the La Caixa foundation

- **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

- **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.