Martin **Cepeda**

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Looking for an end-of-studies R&D internship in AI/Computer Vision, starting in April 2021

Education

2019 to 2021 **École Polytechnique**, Master of Science and Technology in Artificial Intelligence & Advanced Visual Computing. *"Bourse d'excellence de la Fondation de l'École Polytechnique"* laureate. *GPA 3.91/4.0*

2018 to 2020 **École Polytechnique**, Cycle Ingénieur Polytechnicien (MSc in Computer Science, Engineer diploma). *GPA 3.64/4.0*

2015 to 2017 **Pontifical Catholic University of Chile**, B.S in Electrical Engineering, Minor in Electronics and Telecommunications. Ranked 9th out of 823 students in my class

Technical Highlights

Internships:

- **Inria (TAU team)** (Saclay, France, 5 months) as Research Intern. I developed a joint epidemiological-economic model to measure the risk related to different social distancing policies in the context of the SARS-CoV-2 outbreak in order to discover new response strategies.
- **Institut Louis Bachelier DataLab** (Paris, France, 3 months) as Data Scientist Intern. I created a semi-supervised document classifier using pre-trained GloVe embeddings and clustering algorithms in Python.

Projects:

- **At École Polytechnique:** Shape classification using Laplace-Beltrami operator decomposition ● Optimal area polygonalizations in R^2 ● Vanilla 3D scanner using a laptop webcam ● Anomaly Detection in Videos using CNNs ● Prediction of signal peptide cleavage site by SVM
- **At UC (Chile):** Robot arm simulation and control ● Web crawler and parser for a linguistics study ● Switching-Mode Power Supply embedded software and hardware ● OpAmp design and testing

Relevant courses:

- **Deep Learning in Computer Vision:** image-oriented CNNs in PyTorch
- **Machine Learning:** Practical and theoretical basis for supervised, unsupervised and reinforcement learning methods.
- **Algorithmics:** Complexity and correctness analysis of several algorithmic paradigms: greedy, dynamic programming, local search, divide & conquer, etc.
- **Computer Vision:** Classical techniques such as feature detection, segmentation, object recognition, motion estimation and 3D vision. Done in OpenCV for C++.
- **Geometry Processing & Computational Geometry:** curves, meshes,shape analysis, triangulations, graph algorithms and optimal data structures.

Languages

- **Spanish** Native
- **French** Fluent in all skills (C2 TCF)
- **English** Fluent in all skills (930/990 TOEIC)

Programming Languages

- **Python** 5 years
- **C++** 2 years
- **MATLAB, Mathematica, Arduino** 1 year

Other Activities

Mar 2020 – Jan 2018 **Student life, activities and sports, École Polytechnique**
"Crôtale de section" Ultimate 2017 ● Student associations such as X-Passion, HispaniX and Ultimate

Dec 2017 – Mar 2015 **Teaching Assistant, Mathematics, Sciences and Engineering courses, PUC**
Electromagnetism Laboratory, Electrical Circuits, Quantitative Reasoning, Precalculus, Physics levelling program for freshmen students, Introduction to Programming, Calculus I, General Chemistry II. On average 50 students per course.