Alejandro Carderera de Diego

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EDUCATION

08/2018-Present **Georgia Institute of Technology, ISyE**. Atlanta, GA, USA.
Ph.D. in Machine Learning. Cumulative GPA: 4.0/4.0
Advisor: Sebastian Pokutta.

- Locally Accelerated Conditional Gradients (arXiv: 1906.07867)

8/2014-7/2016 **Cornell University, College of Engineering**. Ithaca, NY, USA.
Master of Science in Applied and Engineering Physics. GPA: 4.01/4.3
Henry S. Sack Memorial Award (Academic Performance).
Advisor: Olivier Desjardins.

- Drop Electrohydrodynamics (Master's Thesis)

8/2010-7/2014 **Universidad Politécnica de Madrid, ETSII.** Madrid, Spain.
Bachelor of Science in Industrial Engineering.
Major in Energy Engineering. GPA: 7.7/10
Advisor: Jaime Carpio Huertas

- Mobile frontier problems in the context of the Finite Element Method (FEM) (Bachelor's Thesis).

EXPERIENCE

9/2016-7/2018 **HP Inc., Large Format and 3D Printing.**
R&D Engineer, System integrator.

- Solving and analyzing complex development problems at the intersection of mechanical, electrical engineering and computer science.
- Development of computer vision tools to automate the quality grading of the products developed.
- Performing experiments to improve various aspects of the engineering process and designing machine learning tools to analyze/interpret the data.

8/2015-6/2016 **Cornell University, College of Engineering**
Graduate Research Assistant

- Developed new mathematical scheme for the coupling of the electric field and the Navier-Stokes equations, in order to simulate electrohydrodynamic phenomena.
- Benchmarked solution with the canonical case of a dielectric drop suspended in an electric field.

6/2015-8/2015 **Tel Aviv University, Department of Materials Science and Engineering**
Graduate Research Intern

- Intensive three-month summer internship, characterization of properties of promising photovoltaic materials, employing first-principle atomic simulations.

6/2013-7/2014 **Universidad Politécnica de Madrid, ETSII.**
Undergraduate Research Assistant

- Development of new numerical schemes to simulate mobile frontier problems in fluid mechanics in the Semi-Lagrangian framework (Finite Element Method).

AWARDS

Henry S. Sack Memorial Award: Top Academic Performer (Cornell, 2014-2016)
Research Collaboration Scholarship (Spanish Ministry of Education-2014).
Excellence Scholarship & Top Academic Performer (Autonomous Community of Madrid-2010).

SKILLS

Tools: C++, Python, Fortran, MATLAB, LaTeX, Linux.
Languages: Spanish, English, French (intermediate level).

ADDITIONAL EXPERIENCE

Spanish Friends of Cornell (President): Promotion of Spanish culture and language.
Teaching Assistant: Computational Engineering Physics, Continuum Physics, Basic Statistical Methods.