Jesús David Cifuentes Pardo

Curriculum Vitae

✉ *jesuscif@if.usp.br*

I have a B.Sc. in Physics and Mathematics from the University of Los Andes and an M.Sc.in Physics from the University of São Paulo (USP). During my research project, I used machine learning algorithms to simulate novel materials for quantum computing. Now, I intend to apply my skills into the field of data science where I aim to make many contributions due to my outstanding analytic and mathematical skills.

Education

March 2017 – March 2019	**M.Sc. in Physics**, *Institute of Physics, University of São Paulo (IFUSP)*, São Paulo, SP, Brasil. GPA: Maximum grade A.
Jan 2013 – April 2017	**B.Sc. in Mathematics**, *University of Los Andes*, Bogotá, Colombia. GPA: 4.45/5.00 . Class Rank: Percentile 90 [1].
Jan 2012 – Oct 2016	**B.Sc. in Physics**, *University of Los Andes*, Bogotá, Colombia. GPA: 4.45/ 5.00. Class Rank: Percentile 90 [1].

Programming

Main Programming Language

Since 2014	Python. Libraries: Pandas, Tensorflow, Pytorch, Scykit-learn, Matplotlib, NetworkX, SciPy

Additional Languages

R, SQL, Unix Shell Scripts, C++ , Octave, Java

Software

Jupyter, Mathematica, Matlab, Rstudio, Eclipse, Inkscape

Operating Systems

MacOs, Ubuntu, Windows.

Computational Experience

March 2017- May 2019	**Numerical simulation of basic quantum computing architectures**, *Institute of Physics (USP)*, São Paulo, Brasil.

Relevant Experience

- Modeling of quantum transport with graph algorithms.
- Simulation of quantum materials with the Numerical Renormalization Group on C++.
- Integration of machine learning techniques to the study of quantum materials.
- Data analysis with python.

Github:	`https://github.com/cifu9502`.

Courses

June, 2019	**SQL for Data Science on Coursera**, *Universisy of California*, Davis. https://www.coursera.org/account/accomplishments/certificate/C25FKN9L8JZK
June, 2019	**Machine Learning by Stanford University on Coursera.**. `https://www.coursera.org/account/accomplishments/certificate/WWHCFW93CT95`
Jan 2019	**Numerical Renormalization Group (NRG UFU/2019)**, *University of Uberlândia*, Brasil.

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[1] Statistics from `https://planeacion.uniandes.edu.co/dmdocuments/Boletin_estadistico_2016.pdf`

April 2018	**Course on Tensor Networks and Applications**, *Institute of Physics USP*, São Paulo, Brasil.
Sept 2017	**Course on Machine Learning for Many-Body Physics**, *ICTP-SAIFR*, São Paulo, Brasil.
Jan 2015 - May 2015	**Computational methods on science**, *University of Los Andes*, Bogotá, Colombia. Grade: 4.46/5.0
Jan 2012 - Dec 2012	**Object Oriented Programming I y II**, *University of Los Andes*, Bogotá, Colombia. Grade: 5.0/5.0

Upcoming Publication

May 2019	**Manipulating Majorana zero-modes in double quantum dots**, *https://arxiv.org/abs/1905.09140*, Cifuentes, J. D. & da Silva, L. G. G. V. D.

Research Experience

March 2017 – May 2019	**Master's Thesis: "Kondo-Majorana Coupling in Double Quantum Dots "**, *Advisor: Luis G. G. V. Dias da Silva.*. Link: `http://www.teses.usp.br/teses/disponiveis/43/43134/tde-22052019-115305/`. Language: English.
Aug 2016 - Dec 2016	**Undergraduate thesis in Mathematics: "On Gauging Symmetries of 2D Topological Quantum Field Theories"** , *Advisor: César Galindo.* Link: `https://repositorio.uniandes.edu.co/handle/1992/15220` Grade: 5.00/5.00. Language: English.
Sept 2015 - May 2016	**Undergraduate thesis in Physics: "Understanding Topological order in 1D fermion chains"**, *Advisor: Andrés Reyes Lega*. Link: `https://repositorio.uniandes.edu.co/handle/1992/17840` Grade: 4.80/5.00. Language: English.

Relevant Experience
- Developed efficient strategies for mathematical modeling in physics.
- Team work and collaborative research with colleagues and professors from several universities in Brazil.
- Skillful writing for academic publications.
- Acquired independent research skills and independent learning techniques.

Awards

March 2017 – March 2019	**Scholarship(CNPq)** for Master studies in Physics at the University of São Paulo.
May 2012	First place at **National Undergraduate Math Olympiad**, Colombia.
July 2011	Participant of the **52th International Mathematical Olympiad (IMO)**, Netherlands.

Languages

Spanish	Mother tongue
English	Fluent. Toefl iBT: 101. Reading: 28 , Listening: 30, Speaking: 22 , Writing: 21
Portuguese	Fluent.

Teaching Experience

2014, 2016	**Teaching Assistant of Linear Algebra I**, *Department of Mathematics*, Universidad de los Andes, Bogotá.
2013, 2015	**Teaching Assistant in Physics**, *Department of Physics*, Universidad de los Andes, Bogotá.
June 2012, 2013, 2014	**Instructor at Summer Intership in High School Mathematical Olympiads**, *Olimpiadas Colombianas de Matemáticas*, Universidad Antonio Nariño, Bogotá.

Relevant experience

- Capacity to summarize information and present it in clear, graphic and concise way
- Experience with professional presentations.