

LUIS VELA VELA PHD

Accomplished Computational Physicist and NWP Software Engineer with expertise in High-Performance Computing, Scalable AI, and meteorological data analysis. Combines an entrepreneurial approach with a commitment to developing customer-centric solutions, aiming to contribute significantly in technology-driven settings.



CONTACT

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☎ +352 661 678965
📍 Luxembourg, Luxembourg
in Luis Vela Vela

SKILLS

Programming Languages

Python

FORTRAN

Bash

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Software & Tools

Version Control

git, github, BitBucket

Num. Weather Prediction

UFS, WRF

Data Science

(numpy, scipy, pandas)

ML&DL

(scikit-learn, OpenCV, TF2)

GPU acceleration

(RAPIDS)

Distributed Computing

(DASK, Horovod)

Visualisation

(matplotlib, gnuplot, VisIt, ParaView, ncview)

MS Office

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Languages

Spanish

English

French

Serbian

Czech

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CERTIFICATES

Udacity Computer Vision Nanodegree
NVIDIA TensorRT
NVIDIA RAPIDS
DeepLearning.AI Deep Learning
DeepLearning.AI TensorFlow
Stanford Machine Learning

WORK HISTORY

📅 Nov22' - Present

📍 Spire Global, Luxembourg

NWP - Software Engineer

Global collaboration in NWP for space-enabled products. Lead data-pipeline development, optimize HPC processing, and innovate leveraging Spire's assets and expertise.

📅 Feb21' - Nov22'

📍 LuxProvide, Luxembourg

Sr. Solutions Engineer

Engaged with customers to assess their needs, leveraging technical expertise to design HPC solutions. Established and nurtured customer relationships throughout the entire sales cycle.

📅 Oct19' - Jan21'

📍 Amazon, Luxembourg

Research Scientist

Leveraged diverse data sources, conducted quantitative and qualitative research, and applied statistics and ML to provide actionable insights with a direct impact on Amazon's workforce

📅 Feb19' - Jun19'

📍 S2DS (AstraZeneca), London

Data-Science Fellow

Automated exploration of the Gene Expression Omnibus (GEO) database, predicted research topics through time-series analysis, and delivered a graph-based drug recommendation engine.

EDUCATION

📅 Sep13'- Feb19'

📍 UC3M, Madrid | UGent, Ghent

PhD. in Computational Physics

Smoothed Particle Hydrodynamics and its application to fusion-relevant MHD problems.

📅 Sep11'- Jul13'

📍 UC3M, Madrid | UGent, Ghent

Msc. in Plasma Physics

Statistical Properties of Turbulent Dynamics in Linear Devices

📅 Sep07'- Jul10'

📍 Charles University, Prague

Bsc. in Physics

PIC simulation of the segmented cylindrical probe

ACHIEVEMENTS, HONOURS AND AWARDS

- 🏆 Outstanding Colombian Abroad | Award by the Colombian Government
- 🏆 Summa-Cum-Laude | PhD Thesis dissertation
- 🏆 Greatest Distinction | 2013 Erasmus Mundus Master
- 🏆 UNESCO Fellowship | Bachelor Studies Scholarship

PUBLICATIONS

- 📄 Magneto-hydrodynamical nonlinear simulations of magnetically confined plasmas using smooth particle hydrodynamics (SPH)
- 📄 A positioning algorithm for SPH in smoothly curved geometries
- 📄 ALARIC: An algorithm for constructing arbitrarily complex initial density distributions with low particle noise for SPH/SPMHD applications

GENERAL SKILLS

Physics

High Performance Computing

Numerical Weather Prediction

Computational Fluid Dynamics

Sacalable AI

Nuclear Fusion