

LUIS VELA VELA PHD

Computational Physicist and NWP Software Engineer specializing in High-Performance Computing and AI-driven weather forecasting. Proven track record of architecting scalable solutions that transform meteorological data into actionable insights. Brings entrepreneurial drive to deliver high-impact results in complex technical environments.



CONTACT

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- 📍 Luxembourg, Luxembourg
- 🏠 [OnlineResume](#)
- 🌐 @luiservela
- in Luis Vela Vela

SKILLS

Programming Languages

- Python
- Bash
- FORTRAN
- Mathematica

Software & Tools

- GIT
- (GitHub, GitLab, BitBucket)
- AI-Weather Models
- (aurora, AIFS, FourCastNet)
- NWP-Weather Modles
- (UFS, WRF)
- DataScience
- (numpy, pandas, sklearn, Dask)
- JIT DataScience
- (JAX, Numba)
- Distributed DataScience
- (CuPy, CuDf, CuML)
- ML/DL Framework
- (TensorFlow, Pytorch)
- Other
- (AWS-cli, Horovod)
- Other2
- (conda, Docker, Ansible)

Languages

- Spanish, English
- French, Serbian
- Czech

WORK HISTORY

- 📅 Sep24' - Present
📍 Spire Global, Luxembourg
Sr. AI Weather Scientist
Led cross-functional team developing ML infrastructure for weather forecasting. Built and scaled ML models through collaboration with engineers and climate experts.
- 📅 Apr24' - Sep24'
📍 Spire Global, Luxembourg
AI Weather Scientist
Developing ML models to predict global weather patterns by analyzing meteorological data and collaborating across disciplines to improve forecast accuracy.
- 📅 Nov22' - Apr24'
📍 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
Explored the GEO database and created 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