

VÍCTOR GALVÁN FRAILE

PhD student

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BIOGRAPHY

Master graduate in Meteorology and currently predoctoral researcher in seasonal forecasting. I express my interest in different fields: Atmospheric Physics, Renewable Energies and Computational Physics. Passionate about solving problems with rigor and, actually, learning to model atmospheric phenomena.

WORK EXPERIENCE

PhD student

TROPA UCM - Tropical Climate Variability and Atmospheric Teleconnections of the University Complutense of Madrid

📅 Sep. 2023 – Ongoing 📍 Madrid, Spain

- The research focuses on the development on Seasonal Forecast Machine Learning models, with special attention in understanding the underlying physical mechanisms behind the predictions.

Research fellow

IGEO -Institute of Geosciences

📅 Mar. 2023 – Sep. 2023 📍 Madrid, Spain

- The research focuses on study the interaction between tropical basins in the present and future climate using CMIP6 global climate models. To this end, deep learning techniques have been applied to analyse the predictability of these types of methodologies and compare them with those currently used. Supervised by Marta Martín del Rey and María Belén Rodríguez de Fonseca.

Trainee student

AEMET- State Meteorological Agency

📅 Feb. 2023 – Apr. 2023 📍 Madrid, Spain

- The work carried out dealt with the application of statistical post-processing to the Harmonie-Arome meteorological model with the aim of improving its predictions at airports in the Iberian Peninsula through the so-called "MOS" (Model Output Statistics). Supervised by José Luis Casado Rubio.

Trainee student

SIELTEC- State Meteorological Agency

📅 Apr. 2022 – May. 2022 📍 San Cristóbal de La Laguna, Spain

- The main task carried out consisted of the characterisation and modelling of the Izaña aquifer, Tenerife, applying both classical models and artificial intelligence techniques. Supervised by César López Solano and Patricia Hernández Rodríguez.

Research fellow

Ministry of Education and Sciences of Spain

📅 Oct. 2021 – Jun. 2022 📍 San Cristóbal de La Laguna, Spain

- Collaboration grant in university departments that allowed research work in the field of meteorology in the Group of Earth and Atmospheric Observation (GOTA) of the University of La Laguna. Tutored by Professor Juan Pedro Díaz González.

EDUCATION

M.Sc. in Meteorology and Geophysics

University Complutense of Madrid

📅 Sept. 2022 – Jun. 2023

📍 Madrid, Spain

- Average Mark: 9.67/10 | GPA:3.2/4 with 2 honor distinctions.
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B.Sc. in Science Physics

University of La Laguna

📅 Sept. 2018 – Jun. 2022

📍 San Cristóbal de La Laguna, Spain

- Average Mark: 9.47/10 | GPA:3.23/4 with 13 honor distinctions.
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GCSE and GCE (equivalent to ESO and Bachillerato)

University of La Laguna

📅 Sept. 2002 – Jun. 2018

📍 San Cristóbal de La Laguna, Spain

- Got the General Certificate of Education (GCE) with a final mark of 10/10.
 - Got a final mark of 12.93/14 at the University Entrance Examinations (EBAU).
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SKILLS

Languages

- Spanish: Native proficiency.
 - English: C1 level certified by CAE exam of the Cambridge University.
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Computing Skills

- Programming languages: Python (advanced), Matlab (basic), Fortran (basic), LabView (basic) and Latex (intermediate).
 - Applications: Jupyter Notebook, Microsoft Office Suite (Excel, Word, PowerPoint) and Google Docs.
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Teamwork Experience

- A total amount of 24 ECTS destined to group work throughout the Physics degree.
 - 7 years playing in a basketball team.
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COURSES

Deep Neural Networks with PyTorch

Stanford University (Coursera)

📅 Jul. 2023 - Sep. 2023

- This 30-hour course provides a broad introduction to PyTorch as well as the basic concepts behind machine learning and neural networks. Concretely, it is divided into: Tensors and Datasets; Linear Regression; Multiple Input Output Linear Regression and Logistic Regression; Softmax Regression; Neural networks and Deep Networks; Convolutional Neural Networks.
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Renewable energies: Resources, Variability and Forecast

Institut Polytechnique de Paris (Coursera)

📅 Jul. 2023 - Aug. 2023

- The contents of this 5-course specialization cover different topics of deep learning, from building neural networks to learning how to lead successful machine learning projects. The main courses are:
 1. **Neural Networks and Deep Learning:** 18 hours.
 2. **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization:** 15 hours.

3. **Structuring Machine Learning Projects:** 7 hours.
4. **Sequence Models:** 16 hours.

MOOC Machine Learning in Weather & Climate

European Centre for Medium Range Weather Forecasts (ECMWF)

📅 Jan. 2023 - Apr. 2023

- The contents of this 3-course specialization cover different topics of weather and climate, deep learning, and the application of ML in this field. The main courses are:
 1. **Machine Learning in Weather and Climate:** 13 hours.
 2. **Concepts of Machine Learning:** 12 hours.
 3. **Practical Machine Learning applications in Weather and Climate:** 14 hours.

Deep Learning Learning

Stanford University (Coursera)

📅 Jan. 2021 - Apr. 2021

- The contents of this 5-course specialization cover different topics of deep learning, from building neural networks to learning how to lead successful machine learning projects. The main courses are:
 1. **Neural Networks and Deep Learning:** 18 hours.
 2. **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization:** 15 hours.
 3. **Structuring Machine Learning Projects:** 7 hours.
 4. **Sequence Models:** 16 hours.

Machine Learning

Stanford University (Coursera)

📅 Jan. 2021 - Apr. 2021

- This 55-hour course provides a broad introduction to machine learning, data mining, and statistical pattern recognition. Topics include:
 1. **Supervised learning:** parametric/non-parametric algorithms, support vector machines, kernels, neural networks.
 2. **Unsupervised learning:** clustering, dimensionality reduction, recommender systems, deep learning.
 3. **Best practices in machine learning:** bias/variance theory; innovation process in machine learning and AI.
- The course also draws from numerous case studies such as applying learning algorithms to build smart robots (perception, control), text understanding (web search, anti-spam), computer vision, medical informatics, audio, database mining, and other areas.

Information Sources for University Education

University of La Laguna

📅 Sept. 2018

- Participation at the course which focused on how to localize, evaluate and communicate correctly information. Recognized with 1 ECTS.

Estalmat, Stimulation of Mathematical Talent

Isaac Newton Society

📅 Oct. 2013- May. 2015

- This course aim is to let the student learn to base and express its arguments, to better understand the scientific language, to solve problems, to get started in the mathematical nature and to develop the creative reasoning.

HONORS, AWARDS & CONTESTS

International

- 📅 Mar. 2015 **Participant**, Math Kangaroo, Level 3 📍 Tenerife, Spain
 - 📅 Mar. 2014 **Participant**, Math Kangaroo, Level 2. 📍 Tenerife, Spain
 - 📅 Mar. 2013 **Participant**, Math Kangaroo, Level 1. 📍 Tenerife, Spain
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National

- 📅 Jun. 2014 **Finalist**, XXV National Mathematical Olympiad. 📍 Barcelona, Spain
 - 📅 Dic. 2011 **9th Place**, II Supertics Math Championship 📍 Tenerife, Spain
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Regional

- 📅 Mar. 2018 **Participant**, Regional phase of the XXIX National Physics Olympiad. 📍 ULL, Spain
- 📅 Jan. 2018 **Participant**, Regional phase of the LIV National Mathematical Olympiad. 📍 ULL, Spain
- 📅 Jan. 2017 **Participant**, Regional phase of the LIII National Mathematical Olympiad. 📍 ULL, Spain
- 📅 Jan. 2016 **Participant**, Regional phase of the LII National Mathematical Olympiad. 📍 ULL, Spain
- 📅 May. 2014 **1st Place**, XXV Mathematical Tournament Phase II. 📍 Canary Islands, Spain
- 📅 Mar. 2014 **Qualified**, XXV Mathematical Tournament Phase I. 📍 Canary Islands, Spain

CONFERENCES, LECTURES & PAPERS

CLIVAR

- 📅 24-26 Jan. 2023 📍 UCM, Spain
 - Presentation of a scientific poster.
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Coefis XIV

- 📅 24-25 Mar. 2022 📍 ULL, Spain
 - Attendance to the XIV Physic Students Congress.
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Coefis XIII

- 📅 15-16 Apr. 2021 📍 ULL, Spain
 - Attendance to the XIII Physic Students Congress.
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Atenea

- 📅 Sept. 2018 - Jun. 2019 📍 ULL, Spain
 - Participation in the program intended for the student body with high IQ focused in helping them to discover their vocation and encouraging them to take further steps in the investigation field.
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Coefis XII

- 📅 15-16 Mar. 2019 📍 ULL, Spain
 - Attendance to the XII Physic Students Congress.
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COMMUNITY SERVICES & SCIENTIFIC DISSEMINATION

Preparation of students for National Physics Olympiad

- 📅 Apr. 2022 📍 ULL, Spain
- A total of 20 hours were dedicated to teach basic concepts of error theory and experimental procedure to high school students that were selected to represent ULL at the XXXIII National Physics Olympiad.

Preparation of students for National Physics Olympiad

📅 Apr. 2021

📍 ULL, Spain

- A total of 20 hours were dedicated to teach basic concepts of error theory and experimental procedure to high school students that were selected to represent ULL at the XXXII National Physics Olympiad.

Preparation of students for National Physics Olympiad

📅 Feb. 2019 - Apr. 2019

📍 ULL, Spain

- A total of 20 hours were dedicated to teach basic concepts of error theory and experimental procedure to high school students that were selected to represent ULL at the XXX National Physics Olympiad.

INTERESTS & EXTRACURRICULAR ACTIVITY

Hobbies

- Currently I practice several sports such as cycling and tennis paddle, with special interest in this last one having been University champion at the mixed tournament in 2020 and finalist in the individual tournament in 2022.
- Love hiking and discovering new places.
- Passionate about traveling and discovering new places, with great concern for the environment.

Other certificates

- Driving license class B.