

# Raúl Moreno Galdón

## PERSONAL DATA

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Location: Albacete, Spain  
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## WORK EXPERIENCE

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Sep 2025	Azure Cloud Architect at KEEPLER DATA TECH S.L.
Sep 2021	<i>Microsoft Azure platform solution design and delivery</i> Design and delivery of data focused solutions hosted in the Microsoft Azure Cloud. Worked for several clients, spanning different kind of projects such as landing zones, data ingestion platforms, IoT platforms and AI platforms. Implemented the first LLM Q&A bot of the company based on Retrieval Augmented Generation with GPT3.5.
Sep 2021	Azure Infrastructure Specialist at IBM GSA SPAIN
May 2020	<i>Microsoft Azure platform delivery and operations at a Spanish bank</i> Provided high level operations support for the client systems hosted in the Microsoft Azure Cloud (production systems). Developed a fully automated Virtual Desktop Infrastructure system based on Microsoft Azure Windows virtual machines, using a serverless approach (Azure Functions, Azure Storage, Azure Automation, PowerShell). Also provided support for multiple successful migrations of legacy systems to the hub and spoke architecture that the client had implemented in Azure, integrated with their on-premises network.
May 2020	Data Platform Engineer at SOLIDQ S.A.
June 2019	<i>Microsoft Azure platform delivery and operations</i> Provided support and expertise for clients using Microsoft Azure solutions, evaluating their requirements and their current solutions. Automation tasks were also widely performed in order to reduce the operational overload, making use of the Azure Functions, Azure Automation and PowerShell/CLI technologies.
April 2019	PhD Scholarship Student at UNIVERSITY OF CASTILLA-LA MANCHA
April 2015	<i>High Performance Computing research applied to Earth Sciences</i> Advisors: Prof. Francisco Javier Tapiador and Prof. Juan José Pardo A service-oriented framework was developed (using Linux, NodeJS and MongoDB) to run HPC software on supercomputing platforms. The Weather Research and Forecasting model (WRF) and the Community Earth System Model (CESM) were used as test cases. In addition, various solutions have been developed for Earth Science problems. <ul style="list-style-type: none"><li>- MPI performance and scalability studies were conducted on WRF.</li><li>- Some WRF post-processing tools were ported from Matlab to Fortran.</li><li>- Collaborated with the ICE-POP 2018 project, to provide meteorological forecasts for the 2018 Winter Olympic Games.</li></ul>
Nov-Dec 2014	Software developer at UNIVERSITY OF CASTILLA-LA MANCHA A new version of HidroMORE evapotranspiration model was developed in C. The software was debugged, optimized and parallelized (multithreading) to improve stability, scalability and performance. Thanks to the changes, it was possible to move from regional-size simulations to national-size simulations.
Apr-Jul 2014	Software maintainer at UNIVERSITY OF CASTILLA-LA MANCHA An error system was developed in a pantograph-catenary interaction model. In addition, the software was ported from Windows to Linux, maintaining compatibility with the former. Memory errors were debugged using Valgrind software.

## EDUCATION

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April 2019	PhD in ADVANCED COMPUTER TECHNOLOGIES University of Castilla-La Mancha Title: "Some Critical HPC Improvements in Numerical Weather Prediction Workflows" Advisors: Prof. Francisco J. Tapiador and Prof. Juan J. Pardo
July 2013	Master of Science in ADVANCED COMPUTER TECHNOLOGIES University of Castilla-La Mancha 9.2/10, 60 ECTS credits Title: "High Performance Computing applied to genomics variant calling" Advisors: Prof. Diego Cazorla and Prof. Enrique Arias GPA: 3.3/4.0
August 2012	Bachelor's Degree in COMPUTER SCIENCE, <i>Honours in Computer Engineering</i> University of Castilla-La Mancha 8.9/10, 240 ECTS credits Title: "Software system based on microcontroller for electronic wheelchairs" Advisor: Prof. Antonio Martinez GPA: 3.3/4.0

## AWARDS AND CERTIFICATES

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September 2023	Microsoft Certified: DevOps Engineer Expert
December 2021	Microsoft Certified: Azure Developer Associate
October 2021	Microsoft Certified: Azure Solutions Architect Expert
January 2020	Microsoft Certified: Azure Administrator Associate
June 2012	Collaboration scholarship founded by Spanish Ministry
October 2011	" <i>Thorough and efficient use of computational resources from the knowledge of their architecture</i> "
June 2005	Typewriting certificate, 300 beats per minute

## OTHER EXPERIENCE

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Feb-Mar 2019	Visiting Researcher in Quantum Computing Delft University of Technology, Delft, The Netherlands Introduction to Quantum Computing. Basic knowledge was acquired and a small and basic Quantum computer simulator was developed.
Mar-Jun 2017	JPL Visiting Student Researchers program NASA Jet Propulsion Laboratory, California, United States A classification system for maximum precipitation height in convective systems was developed in C and SQLite, using satellite data. A database of millions of intersections between radar and millimeter-wave radiometer data was created for training the classifier. Multithreading parallelism was used to speed up the computations of the intersections.
March 2014 September 2013	Researcher in Bioinformatics - OpenCB project collaboration Príncipe Felipe Research Center, Valencia, Spain A framework was developed in C for realigning and recalibrating Binary Alignment/Map (BAM) files. Multithreading parallelism techniques were used to speed up the computation. This resulted in much better performance than using the Genome Analysis Toolkit (GATK) reference software.

## LANGUAGES

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English: Mid/Average, Cambridge B2 level certificate, Overall score: 176  
Spanish: Native

## SKILLS

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High Performance Computing:	PySpark, MPI, OpenMP, Profiling, Code Optimization
Cloud Computing:	Azure, Serverless, Databricks
Programming Languages:	C/C++, C#(.NET), Bash, PowerShell, Fortran, Latex, Python, JavaScript
Other skills:	GenAI, MLOps, Automation, DevOps, Data structures, Windows, Linux, Vim

## INTERESTS AND ACTIVITIES

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New technologies, programming, applied technology, Artificial Intelligence.  
Crossfit, domotics, space exploration, mindfulness.

## RESEARCH PUBLICATIONS AND CONFERENCES

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- [1] R. Moreno, E. Arias, D. Cazorla, J. J. Pardo, and F. J. Tapiador, "Seeking the best weather research and forecasting model performance: an empirical score approach," *The Journal of Supercomputing*, 2020.
  - [2] R. Moreno, E. Arias, D. Cazorla, J. J. Pardo, A. Navarro, T. Rojo, and F. J. Tapiador, "Analysis of a new mpi process distribution for the weather research and forecasting (wrf) model," *Scientific Programming*, 2020.
  - [3] R. Moreno, F. J. Perez, A. Navarro, and F. Tapiador, "Science for Everyone (SciE): A proposed framework for Science as a Service using interactive web technologies," *Computers and Geosciences*, p. submitted, 2019.
  - [4] R. Moreno, E. Arias, A. Navarro, and F. Tapiador, "How good is the openpower architecture for high-performance cpu-oriented weather forecasting applications?," *The Journal of Supercomputing*, pp. 1–16, 2019.
  - [5] F. J. Tapiador, R. Moreno, and Z. S. Haddad, "Estimates of the precipitation top heights in convective systems using microwave radiances," *IEEE Transactions on Geoscience and Remote Sensing*, p. accepted for publication, 2019.
  - [6] F. J. Tapiador, R. Moreno, and A. Navarro, "Consensus in climate classifications for present climate and global warming scenarios," *Atmospheric Research*, vol. 216, pp. 26–36, 2019.
  - [7] F. Tapiador, A. Navarro, C. Marcos, and R. Moreno, "Estimates of the change in the oceanic precipitation off the coast of europe due to increasing greenhouse gas emissions," *Remote Sensing*, vol. 10, no. 8, p. 1198, 2018.
  - [8] F. Tapiador, R. Moreno, A. Navarro, A. Jiménez, E. Arias, and D. Cazorla, "Variability of microwave scattering in a stochastic ensemble of measured rain drops," *Remote Sensing*, vol. 10, no. 6, p. 960, 2018.
  - [9] F. J. Tapiador, C. Marcos, A. Navarro, A. Jiménez-Alcázar, R. Moreno Galdón, and J. Sanz, "Decorrelation of satellite precipitation estimates in space and time," *Remote Sensing*, vol. 10, no. 5, p. 752, 2018.
  - [10] A. Navarro, R. Moreno, and F. J. Tapiador, "Improving the representation of anthropogenic co 2 emissions in climate models: impact of a new parameterization for the community earth system model (cesm)," *Earth System Dynamics*, vol. 9, no. 3, pp. 1045–1062, 2018.
  - [11] Z. S. Haddad, R. M. Galdon, R. C. Sawaya, and F. J. Tapiador, "Interpreting millimeter-wave radiances over convective clouds," in *Remote Sensing and Modeling of the Atmosphere, Oceans, and Interactions VII*, vol. 10782, p. 1078203, International Society for Optics and Photonics, 2018.
  - [12] A. Navarro, R. Moreno, A. Jiménez-Alcázar, and F. J. Tapiador, "Coupling population dynamics with earth system models: the popem model," *Environmental Science and Pollution Research*, pp. 1–12, 2017.
  - [13] F. J. Tapiador, A. Navarro, R. Moreno, A. Jiménez-Alcázar, C. Marcos, A. Tokay, L. Durán, J. Bodoque, R. Martín, W. Petersen, *et al.*, "On the optimal measuring area for pointwise rainfall estimation: a dedicated experiment with 14 laser disdrometers," *Journal of Hydrometeorology*, vol. 18, no. 3, pp. 753–760, 2017.

- [14] R. Moreno, D. Cazorla, E. Arias, J. L. Sánchez, J. Garrido, and J. Gonzalez-Piqueras, “Hidro-MORE 2: Una versión paralela y optimizada de HidroMORE,” in *XXVI Edición de las Jornadas de Paralelismo*, pp. 218–224, september 2015.
- [15] J. Tárraga, V. Arnau, H. Martínez, R. Moreno, D. Cazorla, J. Salavert-Torres, I. Blanquer-Espert, J. Dopazo, and I. Medina, “Acceleration of short and long DNA read mapping without loss of accuracy using suffix array,” *Bioinformatics*, 2014.
- [16] R. Moreno, D. Cazorla, E. Arias, J. L. Sánchez, I. Medina, and J. Tárraga, “Recalibrando secuencias de ADN mediante un pipeline basado en OpenMP,” in *XXV Edición de las Jornadas de Paralelismo*, september 2014.