Raúl Moreno Galdón

Personal Data

Location: Albacete, Spain
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Work Experience

Sep 2025 – Sep 2021 | Azure Cloud Architect at Keepler Data Tech S.L.

Microsoft Azure platform solution design and delivery

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 – May 2020 | Azure Infrastructure Specialist at IBM GSA Spain

Microsoft Azure platform delivery and operations at a Spanish bank

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 – June 2019 | Data Platform Engineer at SolidQ S.A.

Microsoft Azure platform delivery and operations

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 – April 2015 | PhD Scholarship Student at University of Castilla-La Mancha

High Performance Computing research applied to Earth Sciences

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.
- MPI performance and scalability studies were conducted on WRF.
- Some WRF post-processing tools were ported from Matlab to Fortran.
- Collaborated with the ICE-POP 2018 project, to provide meteorological forecasts for the 2018 Winter Olympic Games.

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

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, *Honours in Computer Engineering*
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

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 | *"Through and efficient use of computational resources from the knowledge of their architecture"*

June 2005 | Typewriting certificate, 300 beats per minute

Other Experience

Feb-Mar 2019 | Visiting Researcher in Quantum Computing
Delft University of Technology, Delft, The Netherlands
Introduction to Quantum Computing. Basic knowledge was adquired 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 | Researcher in Bioinformatics - OpenCB project collaboration
September 2013 | 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 Tookit (GATK) reference software.

Languages

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

Skills

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

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

Research publications and conferences

[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 (ScifE): 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, "HidroMORE 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.