Rosario **Medina-Rodríguez**
Computer Science | PhD. Candidate at PUCP

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👥 Member of:

ℹ ↗ Perú - RENACYT Researcher

ℹ ↗ IA-PUCP, Artificial Intelligence Group

ℹ ↗ *Scientific Association for Research, Development and Innovation* - PERU I+D+I

🎓 EDUCATION

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
PhD. in Engineering
Expected April 2022 | Lima, Perú

UNIVERSITY OF SÃO PAULO
Master in Computer Science
July 2012 | São Paulo, Brazil

BS in Systems Engineering
December 2009 | Arequipa, Perú

📚 SKILLS

Programming:
Python • C/C++ • LaTeX • Matlab
R • Java • Perl • HTML • PHP • CSS

Operative Systems:
Windows • Linux • Mac OS X

Databases:
PostgreSQL • PostGIS

Image Libraries:
Scikit-image, • PIL • OpenCV •
ImageMagick • ImageJ • Pov-Ray

Multispectral Image Processing:
QGis • Rasterio • GDAL • Earthpy •
Fiona • Libtiff

Deep Learning Frameworks:
Pytorch • Tensorflow • Fast.ai

💻 COURSEWORK

Deep Learning Specialization by
DeepLearning.AI on Coursera
**International Summer School
on Deep Learning** - GDANSK
University (July 5 - 9, 2021).

🔤 LANGUAGES

Spanish	●●●●●
English	●●●●○
Portuguese	●●●●○
French	●○○○○

🚶 OTHER ACTIVITIES

Former Swimmer
Play Volleyball, Run, 🚲
🎧 80's Music
Watch movies, Dance

💼 EXPERIENCE

NATIONAL AEROSPACE RESEARCH AND DEVELOPMENT COMISSION
↗ **CONIDA** | Remote Sensing and Deep Learning Researcher
June 2021 – Dec 2021 | Lima, Perú

`Python` `LaTeX` `QGis` `GDAL` `rasterio` `earthpy` `fiona` `shapely` `geopandas` `pytorch` `wandb` `gradio`

RESEARCH CENTER OF UNIVERSIDAD DEL PACÍFICO
↗ **CIUP** | Research Assistant
April 2020 – Nov 2021 | Lima, Perú

`Python` `Plot.ly` `LaTeX` `scikit-learn` `geopandas` `PostgreSQL` `QGis` `KarateClub` `Weka`

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
↗ **PUCP** | Teaching Assistant
Sep 2019 - June 2021 | Lima, Perú

`Python` `matplotlib` `geopandas` `dash` `D3` `Plot.ly` `jupyter notebook`

NATIONAL AEROSPACE RESEARCH AND DEVELOPMENT COMISSION
CONIDA | Remote Sensing and Deep Learning Researcher
July 2020 - Dec 2020 | Lima, Perú

`pytorch` `python` `LaTeX` `QGis` `PostGis` `GDAL` `rasterio` `earthpy` `fiona` `google colab`

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ | Master Thesis
Co-Supervisor
Aug 2020 - Dec 2020 | Lima, Perú

`Deep Learning` `Python` `LaTeX`

UNIVERSIDAD DEL PACÍFICO | Research Assistant
May 2019 - Sep 2019 | Lima, Perú

`Python` `Plot.ly` `LaTeX` `scikit-learn` `Weka` `keras` `tensorflow`

PERÚ I+D+I | Research Assistant
July 2016 - July 2017 | Lima, Perú

`Python` `OpenCV` `Raspberry Pi` `tkinter`

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ | Research Assistant
Feb 2014 - March 2016 | Lima, Perú

`C++` `Weka` `OpenCV` `Netbeans` `QT` `LaTeX`

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ | Teaching Assistant
Mar 2014 - Dec 2015 | Lima, Perú

`C++` `Python`

INSTITUTO DE BIOCIÊNCIAS, UNIVERSIDADE DE SÃO PAULO | Research
Assistant
Sep 2012 - Aug 2013 | São Paulo, Brazil

`Java` `Perl` `R` `MySQL`

GLOBAL SYSTEM & COMPUTING | Researcher in Document Image
Processing and Recognition
Feb 2009 - July 2009 | Arequipa, Perú

`Java` `Netbeans` `JRE` `ImageJ` `ImageMagick` `Tesseract`

📕 PUBLICATIONS (☍ GOOGLE SCHOLAR PROFILE)

November 2021	**Medina-Rodríguez R**, Beltrán-Castañón C and Hashimoto RF. *An Approach to Growth Delimitation of Straight Line Segment Classifiers Based on a Minimum Bounding Box.* Entropy. 2021 Nov 19;23(11):1541.
October 2021	**Medina-Rodriguez, R.**, Fuentes Navarro, E. L., Beltrán-Castañón, C., Nunez-del-Prado, M., and Alatrista-Salas, H. *Mobiloscope: A Technological Solution for Early Mastitis Detection in Dairy Cattle.* IEEE Latin America Transactions, 20(1), 117-125. 2021.
July 2021	Roy Melendez, César Beltrán Castañón and **Rosario Medina-Rodríguez**. *Sperm Cell Segmentation in Digital Micrographs based on Convolutional Neural Networks using U-Net Architecture.* 2021 IEEE 34th International Symposium on Computer-Based Medical Systems (CBMS). Aveiro, Portugal. 7-9 June, 2021
April 2020	**R. Medina-Rodríguez**, Alvaro Talavera, Martín Hernani-Merino, Juan Lazo-Lazo and Mazzon, Jose Alfonso. *Global Brand Perception based on Social Prestige, Credibility and Social Responsibility: A Clustering Approach.* 6th International Conference on Information Management and Big Data. SIMBig 2019. Lima,Perú. August 21-23, 2019
November 2018	**R. Medina-Rodríguez**, R. F. Hashimoto and C. Beltrán. *Evaluation of the Impact of Initial Positions obtained by Clustering Algorithms on the Straight Line Segments Classifier.* 5th IEEE Latin American Conference on Computational Intelligence, LACCI 2018, Guadalajara, Mexico, November 7-9, 2018.
June 2017	Jorge Vargas Florez, **R. Medina-Rodríguez** and Rafael Alva-Cabrera. *A Clustering Optimization Approach for Disaster Relief Delivery: A Case Study in Lima-Peru. (Revised Selected Papers).* Information Management and Big Data - Second Annual International Symposium, SIMBig 2015, Cusco, Peru, September 2-4, 2015, and Third Annual International Symposium, SIMBig 2016, Cusco, Peru, September 1-3, 2016, Revised Selected Papers. Springer
November 2016	Jorge Vargas Florez, **R. Medina-Rodríguez** and Rafael Alva-Cabrera. *A Clustering Optimization Approach for Disaster Relief Delivery: A Case Study in Lima-Peru.* Proceedings of the 3rd Annual International Symposium on Information Management and Big Data - SIMBig 2016, Cusco, Peru, September 1-3, 2016.
October 2015	D.Gárate, **R. Medina-Rodríguez**, F. Incahuanaco and C. Beltrán. *A heuristic model for determining the sperm motility grade by video tracking.* XLI Conferencia Latinoamericana en Informática (CLEI 2015). IEEE Xplorer
September 2015	**R. Medina-Rodríguez**, H. Alatrista, L. Guzmán and C. Beltrán. *Sperm cells segmentation in micrographic images through Lambertian reflectance model.* 16th International Conference on Computer Analysis of Images and Patterns (CAIP 2015). Springer LNCS.
May 2014	G. Cruz, C. Metcalfe, N. de Setta, E. Cruz, A. Vieira, **R. Medina-Rodríguez**, and M. Van Sluys. *Virus-Like Attachment Sites and Plastic CpG Islands: Landmarks of Diversity in Plant Del Retrotransposons.* PloS one, 9 (5), pp. 97099-97099.
November 2013	**R. Medina-Rodríguez**, J. P. Mena-Chalco, and H. Bernedo Cordova. *DNA Symphony: A new method to Represent Genomic Sequences.* International Conference of the AB3C (X- Meeting) & Brazilian Symposium on Bioinformatics (BSB).
August 2013	**R. Medina-Rodríguez** and R. F. Hashimoto. *Evolutive Algorithms Applied To The Straight Line Segment Classifier.* XXVI SIBGRAPI 2013 – Workshop of Theses and Dissertations - Conference on Graphics, Patterns and Images.
August 2012	**R. Medina-Rodríguez** and R. F. Hashimoto. *Algoritmos evolutivos aplicados ao classificador baseado em segmentos de reta.* Master Dissertation – University of Sao Paulo.
August 2011	**R. Medina-Rodríguez** and R. F. Hashimoto. *Combining Dialectical Optimization and Gradient Descent Methods for Improving the Accuracy of Straight Line Segment Classifiers.* XXIV SIBGRAPI 2011 – Conference on Graphics, Patterns and Images.
December 2008	**R. Medina-Rodríguez** and J. P. Mena-Chalco. *Firmas Genéticas en Secuencias de ADN: Un análisis en regiones codificantes y no codificantes de proteínas.* I Simposio Peruano de Computación Gráfica y Procesamiento de Imágenes (SCGI).