Manuel Ignacio Pérez Carrasco

Curriculum Vitae
maperezc@udec.cl
https://mperezcarrasco.github.io/

EDUCATION

Master in Computer Science
`2017 - 2019`

University of Concepción

Graduated with maximum distinction. Recipient of fully funded "Articulation Scholarship". Author of thesis called "*Semi-supervised adversarial variational domain adaptation for image classification*". Best student paper award in the Astroinformatics 2019 conference.

Industrial Engineer
`2013 - 2018`

University of Concepción

Graduated with maximum distinction. Teaching assistant for *System modeling* and *Machine Learning for Bussines Intelligence* courses. Author of undergraduate thesis "*Attributes transfer in deep neural networks and their application to astronomical images*". Article published in Publications of the Astronomical Society of the Pacific.

BSc. in Engineering Sciences
`2013 - 2016`

University of Concepcion

EXPERIENCE

Research Assistant
`2020 - present`

Biomedical Laboratory, University of Concepción

Design and implementation of a real-time algorithm for drowsiness detection using EEG signals.

Machine Learning Engineer
`2020 - present`

Automatic Learning for the Rapid Classification of Events (ALeRCE)

Encharged of design and implementation of a novelty detection algorithm for astronomical light curves processed from the Zwicky Transient Facility (ZTF) data stream.

Lecturer
`2019 - present`

Department of Industrial Engineering, University of Concepción

Co-teacher of: "Introduction to Machine Learning (2019-2)" and "Topics in Machine Learning (2020-1)", elective courses for graduate and undergraduate students of engineering.

Machine Learning Engineer
`2019-2`

Unidad de Data Science, University of Concepción

Design and implementation of labeling, training and prediction software to count, detect and segmentate trees using georeferenced images.

Research Scholar
`2019-1`

Institute for Applied Computational Science (IACS), Harvard University

Research focused on semi-supervised domain adaptation algorithms for image classification. Project supervised by Pavlos Protopapas, IACS scientific director.

Teaching Fellow

Institute for Applied Computational Science (IACS), Harvard University

Encharged of grading and office hours for CS109b: "Data Science 2: Advanced topics in data science", mandatory course of the Master of Science in Data Science at Harvard University.

Freelance consultant

ARAUCO Company

Design and implementation of deep learning algorithms for counting objects in hyperspectral images. Project winner of the ARAUCO innovation challenge.

Internship

Coca-cola Embonor S.A

Design and implementation of forecasting algorithms for sales and demand estimation.

PUBLICATIONS

M. Pérez-Carrasco, G. Cabrera-Vives, P. Protopapas, N. Astorga, and M. Belhaj. "*Matching embeddings for Semi-supervised Domain Adaptation*". In preparation.

B. Karelovic, R. Molina, **M. Pérez-Carrasco**, G. Cabrera-Vives, R. Saavedra-Passache, P. Cerulo. "*Detection and Segmentation of Tree Plantations in High Spatial Resolution RGB Imagery Obtained from Unmanned Aerial Vehicle*". In preparation.

F. Förster, G. Cabrera-Vives, E. Castillo-Navarrete, P. A. Estevéz, P. Sánchez-Sáez, et al. "*The Automatic Learning for the Rapid Classification of Events (ALeRCE) Alert Broker*". Manuscript submitted to American Astronomical Society Journals, 2020.

M. Pérez-Carrasco, G. Cabrera-Vives, M. Martinez-Marín , P. Cerulo, R. Demarco, P. Protopapas, J. Godoy, and M. Huertas-Company. "*Multiband galaxy morphologies for CLASH: a convolutional neural network transferred from CANDELS*", Manuscript published in Publications of the Astronomical Society of the Pacific, 2019.

CONFERENCES AND WORKSHOPS

Jornadas Chilenas de la Computación 2019. University of Concepción, Concepción, Chile.

Astroinformatics 2019. **Expositor. Best student paper award**. Caltech, Pasadena, CA, USA.

6th CMM Pucón Symposium 2019. Data Science for Frontier Astronomy, Biology, Medicine and Climate. Puerto Varas, Chile.

ComputeFest 2019. **Trainer**. Harvard University, Boston, MA, USA.

Big Data Astronomy Workshop 2018. **Expositor**. University of Concepción, Concepción, Chile.

5th CMM Pucón Symposium 2017. Data Science for Frontier Astronomy, Biology and Medicine. Puerto Varas, Chile.

SKILLS

Languages	Spanish
	English
Tools	Scikit-learn, Keras, Pytorch, Tensorflow, Git.
O.S.	GNU/Linux, Mac OS.
Cloud	Google Cloud, Amazon Web Services.