Karina Rojas

Data scientist | Researcher

Data scientist with 10 years experience in research: data processing, visualisation, analysis and model building as well data catalog manipulation and analysis and utilization of simple SQL queries.

Member of international collaboration as EUCLID consortium and LSST-UK Junior Associate as well DSFP-LSST Data Science Fellowship Alumni. Commited, enthusiastic learner and open-minded.

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Krojas

Work Experience

University of Portsmouth | Fellow researcher
Oct 2021 - To date | Institute of Cosmology and Gravitation, Portsmouth, UK.

- Design, execution and statistical analysis of an innovative experiment to evaluate the performance of human in image classification and compared their results with neural network classification.
- Train a neural network (autoencoder) for efficiently extract specific features in a large dataset of images.
- Development of a pipeline for processing and combining images.

Ecole Polytechnique Fédérale de Lausanne | Posdoctoral researcher
Oct 2018 -Sep 2021 | Laussane, Switzerland.

- Classification of images using convolutional neural networks.
- Participation in the development team of several codes including the automatization of a modeling pipeline and the development of a visualization tool.
- Mentoring graduate students in their project and/or master thesis.
- Weekly colloquium organizer.

Universidad de Valparaíso | Doctoral researcher
2014-2018 | Valparaíso, Chile.

- Develope of several codes including a pipeline for complex time series analysis to indirect measure astronomical features, a code for spectral analysis of astronomical data and the application of machine learning techniques for clustering.
- Several nights observing at different telescope. The task performed include: night planning, telescope preparation, observing targets and calibration images, and solving fast technical problems.

Star Tres | Co-founder
2013-To date | Online.

- Astronomical social media content creation for general public, with the purpose of education and women in science visualization.
- Execution of public talks and workshops in low incomes schools in Chile.

Relevant Skills

Programming
Python: Numpy, Pandas, Matplotlib, Scipy, Sklearn, Tensorflow, Pytorch, Astropy. Wolfram Mathematica.

Libraries/Platforms
Jupyter Notebooks, Latex, Github, Slack.

Communication
Project management, supervision, public speaking, talks in international conferences, outreach events and content creator.

Languages
Spanish (Native). English (C1).
German (A1). French (A1).

Education

Ph.D. in Astrophysics
2014-2018 | Universidad de Valparaíso.

MSC in Astrophysics
2012-2014 | Universidad de Valparaíso.

Bachelor in Physics
2007-2011 |Universidad de Valparaíso.

Achievements

Awards
2018 | "100 Young Chilean Leaders".
2015 | "Graduate Student Prize Lecture".

Grants
2020 | IAU-OAD outreach project.
2017 | LSSTC Data Science Fellowship.
2017 | CONICYT Ph.D. grant.