

# 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.

Committed, enthusiastic learner and open-minded.



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[karina-rojas-olate](#)



[Krojas](#)



Residence permit B,  
with right to work in  
Switzerland

## 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 humans and neural networks in image classification tasks.
- Train a neural network (autoencoder) for efficiently extract specific features in a large dataset of 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 of an automatic modeling pipeline and the development of a visualization tool.
- Mentoring graduate students in their project and/or master thesis and weekly colloquium organizer.

### LSSTC Data Science fellowship | Alumni 2nd cohort

2017-2019 | United States

- This program consisted of six weeks with one-week schools over a two years period. The topics covered were:
  - Statistics, Image processing, Time domain analysis, Machine learning and software engineering, Scalable software and data storage, time series analysis.

### Universidad de Valparaíso | Doctoral researcher

2014-2018 | Valparaíso, Chile.

- Develop of: a pipeline for complex time series analysis to indirect measure astronomical features, a code for spectral analysis 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 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 (A2). 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.