

# Lucas Rodés-Guirao

<http://lcsrg.me> | [hi@lcsrg.me](mailto:hi@lcsrg.me)

## EXPERIENCE

### EDREAMS ODIGEO

Data Scientist

June 2018 - present | Barcelona, Spain

Applying Machine Learning throughout the organisation.

### NATIONAL INSTITUTE OF INFORMATICS

Research Intern

November 2017 - May 2018 | Tokyo, Japan

Deep Learning for Digital Typhoon Project under supervision of Prof. Kitamoto (Master Thesis).

### TRACY

Software Developer

April 2017 - March 2018 | Stockholm, Sweden

AI/Machine learning based algorithm for pet-health IT device.

### KTH ROYAL INSTITUTE OF TECHNOLOGY

Teaching Assistant

January 2017 - October 2017 | Stockholm, Sweden

Assisting Prof. Atsuto Maki in Machine Learning Course.

### KARLSRUHE INSTITUTE OF TECHNOLOGY

Research Assistant

March 2015 - July 2015 | Karlsruhe, Germany

Cognitive Radio under supervision of Univ.-Prof. Dr. rer.nat. Friedrich K. Jondral and Ankit Kaushik (Bachelor Thesis).

## EDUCATION

### KTH ROYAL INSTITUTE OF TECHNOLOGY

M.Sc in Electrical Engineering

Sept 2015 - June 2018 | Stockholm, Sweden

Cum GPA: 3.64/4

### POLYTECHNIC UNIVERSITY OF CATALONIA

M.Eng in Telecommunications

Sept 2015 - June 2018 | Barcelona, Spain

Cum GPA: 3.53/4

B.Eng in Telecommunications

Sept 2011 - Sept 2015 | Barcelona, Spain

Cum GPA: 3.3/4

### DEUTSCHE SCHULE BARCELONA

Sept 2003 - June 2011 | Barcelona, Spain

Abitur: 2.5 (High School)

## PUBLICATIONS

- [1] F. Baldassarre, D. González Morín, and L. Rodés-Guirao, Deep Koalarization: Image Colorization using CNNs and Inception-ResNet-v2, ArXiv:1712.03400, (2017).
- [2] L. Rodés, A. Kaushik, S. K. Sharma, S. Chatzinotas, and F. Jondral, Square-Law Selector and Square-Law Combiner for Cognitive Radio Systems: An Experimental Study, in IEEE 84th Vehicular Technology Conference: VTC2016-Fall, 2016.

## LINKS

Github @lucasrodes

LinkedIn @lucasrodes

Twitter @lucasrodesg

## COURSEWORK

### COMPUTER SCIENCE

Machine Learning, Deep Learning, Artificial Intelligence, Algorithms, Information Retrieval, Unix Systems.

### ELECTRICAL ENGINEERING

Signals and Systems, Digital Signal Processing, Wireless Systems, Information Theory, Probability, Stochastic Processes.

### ONLINE COURSES

Digital Signal Processing (Coursera), Python for Everybody (Coursera), Django for Everybody (Coursera), Convolutional Neural Networks for Visual Recognition (Stanford).

## SKILLS

Teamwork, project management, programing good practices, assertive when required.

### NATURAL LANGUAGES

Native: Spanish, Catalan

Fluent: English, German

Elementary: Swedish

### PROGRAMMING LANGUAGES

Advanced: Python

Confident: Bash, SQL, JavaScript/TypeScript, Matlab,

L<sup>A</sup>T<sub>E</sub>X

Familiar: CSS, HTML, R, Java, C

### TOOLS & UTILITIES

Git/Mercurial, ssh, Docker, CI/CD, GitGub/Bitbucket, unit testing, GNU/Linux, MacOS, Google Cloud Platform, CI/CD (Travis, Jenkins), numpy/scipy, pandas, sklearn, tensorflow/keras, xgboost, GPU, react native, raspberry PI, JetBrains, VS Code, Xcode, Jira/Confluence, Trello/Miro, Adobe Photoshop, Logic Pro, Blogging, DaVinci Resolve.

## EXTRA

Member

Guide

Organiser

Telecos.cat Regional Society

Smart City Expo World Congress 2015

Youth Association enkbronats

(Cabrera de Mar, Sept 2013 - Sept 2019)

Volunteering

DJ/Producer

Teacher

SJ Vietnam (Hanoi, August 2014)

Freelance, Al-Faru and Be Water

Maths/Physics for high school students

*In my freetime I enjoy baking bread and playing the ukulele.*

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## PROJECTS

### ODISI LAEN Technologies

Jan 2020 - Present | Barcelona, Spain

[website](#)

Development of mobile App using React Native and TypeScript for iOS and Android.

### WHATSTK Open Source

Dec 2016 - Present | Barcelona, Spain

[website](#) | [github](#) | [pypi](#)

Development, testing, versioning, maintainance of an open source python library to read and analyse WhatsApp chat. Distributed under the GPL-3.0 license.

### HOTEL BOOKING PREDICTIVE MODEL eDreams ODIGEO

Feb 2019 - Jan 2020 | Barcelona, Spain

Implementation of Machine Learning model to predict the user propensity to book a hotel.

### VIRTUAL INTERLINING eDreams ODIGEO

Sep 2018 - Jan 2019, Oct 2019 - Present | Barcelona, Spain

[virtual interlining info](#)

Company initiative to generate new content joining flights/segments from different sources (e.g. different carriers, providers etc.). In this project, I am in charge of the implementation and research of Machine Learning applied to Virtual Interlining. This includes exploratory data analysis, hyper-parameter tuning, productionalisation, testing, versioning and maintainance of the model, analysis on the results from A/B tests etc. Working with Data Engineer, Backend Engineers and Business.

### DEEP LEARNING FOR DIGITAL TYPHOON

Academic (NII, KTH, UPC)

Nov 2017 - May 2018 | Tokyo, Japan

[report](#) | [github](#) | [documentation](#)

Done as part of my Master Thesis. Design and implementation of (i) a classifier to differentiate tropical cyclones and extratropical cyclones and (ii) a regression model to estimate the centre pressure value of a typhoon. In addition, we explore cleaning methodologies to ensure that the data used is reliable.

### DEEP KOALARIZATION Academic (KTH Royal Institute of Technology)

Jun 2017 - Dec 2017 | Stockholm, Sweden

[website](#) | [github](#) | [paper](#)

Acknowledged by Keras creator François Chollet, we review recent approaches to colorize gray-scale images using deep learning methods. We propose a model combining a deep Convolutional Neural Network trained from scratch with high-level features extracted from Inception-ResNet-v2 pre-trained model. Assessment of the "public acceptance" of the generated images by means of a user study. Finally, we present a carousel of applications on different types of images, such as historical photographs.

### SENSOR MOTION DATA EXPLORATION Tracy

Trackers

Apr 2017 - Mar 2018 | Stockholm, Sweden

[website](#)

Development and implementation of an AI/Machine learning based algorithm for pet-health IT device in an early-stage Start-up. Data collection, data cleaning, Cloud architecture discussions, Start-up roadmap etc.

### TRUMP TWITTER ANALYSIS/VISUALISATION

Academic (KTH Royal Institute of Technology)

Apr 2017 - Jun 2017 | Stockholm, Sweden

[github](#) | [report](#)

Visualization of Trump Tweets using Kibana and Elasticsearch. This project was developed as part of the DD2476 Search Engines and Information Retrieval Systems course at KTH Royal Institute of Technology, spring 2017.

### KERNEL PCA FOR DENOISING Academic (KTH Royal Institute of Technology)

Nov 2016 - Jan 2017 | Stockholm, Germany

[report](#) | [github](#) | [original paper](#)

We reproduced the experiments presented in the paper Kernel PCA and De-noising in Feature Spaces by Sebastian Mika, Bernhard Schölkopf, Alex Smola Klaus-Robert Müller, Matthias Scholz and Gunnar Rätsch as a project in DD2434 Machine Learning Advance Course during Winter 2016.

### BOOK AUTHOR CLASSIFICATION Academic

(Polytechnic University of Catalonia)

May 2016 - Jun 2016 | Barcelona, Spain

[report](#) | [github](#)

Benchmarking of NLP classification models applied to spanish literature book fragments.

### DEPLOYMENT OF ENERGY DETECTOR FOR COGNITIVE RELAY WITH MULTIPLE

ANTENNAS Academic (Karlsruhe Institute of Technology)

Mar 2015 - Jul 2015 | Karlsruhe, Germany

[report](#)

Bachelor thesis in Telecommunications Engineering as an exchange student at KIT.

Deployment of a signal detector based on Energy Detection in order to take advantage of spectrum holes in a Cognitive Relay scenario. Furthermore, the case with multiple antennas in reception (i.e. where the detection process occurs) are studied.