


Thomas Louf

PhD candidate

Profiles

 TLouf

 tlouf.github.io

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Education

PhD programme in Complex Systems

Nov 2019 - Summer 2023

- Institute for Cross-Disciplinary Physics and Complex Systems (IFISC), Palma, Spain
With José J. Ramasco and David Sánchez as supervisors of my thesis, entitled "Complexity in sociolinguistics: exploring the interplay between geography, culture and the social fabric."
María de Maeztu Unit of Excellence PhD position
- Department for Network and Data Science (DNDS), CEU, Vienna, Austria Sep 2022 - Dec 2022
Research stay with Márton Karsai for a project investigating the interplay between socio-economic inequalities and language. Funded with a competitive mobility grant from Santander.

MSc in Physics

Sep 2018 - Sep 2019

Imperial College, London, UK

12-month taught programme with selected courses in Complexity & Networks, Computational Physics, Atmospheric Physics, General Relativity (among others).

Thesis with Dr. Tim Evans entitled "An axiomatic study of spatial interaction models".

Diplôme d'Ingénieur

Sep 2015 - Sep 2019

Ecole Centrale de Lyon, France

Broad engineering training with selected courses in quantum physics, nuclear engineering and observation of matter. Last year at Imperial College as part of a joint degree programme.

Preparatory classes to Grandes Écoles exams

Sep 2013 - Sep 2015

Collège Stanislas, Paris, France

Past employments

Data science intern

Jan 2018 - Jul 2018

HousingAnywhere, Rotterdam, Netherlands

I analyzed operational data from a large SQL database to provide insights to other teams and also carried out machine learning projects at an exploratory phase.

Research intern

May 2017 - Oct 2017

CEA Irfu, Saclay, France

I investigated the potential of Micromegas gaseous detectors for X-ray spectro-polarimetry. I performed experiments to test its performance and analysed data collected at the SOLEIL synchrotron to calibrate a detector.

Publications

Louf, T., Sánchez, D., Ramasco, J.J., 2021. Capturing the diversity of multilingual societies. *Physical Review Research* 3, 043146.

Louf, T., Gonçalves, B., Ramasco, J.J., Sanchez, D., Grieve, J., 2022. American cultural regions mapped through the lexical analysis of social media. arXiv.2208.07649 (accepted for publication)

Talks

COMPILA satellite at the Conference on Complex Systems 2022

Louf, T., Gonçalves, B., Ramasco, J.J., Sanchez, D., Grieve, J.
American cultural regions mapped through the lexical analysis of social media.

VII COMSOTEC Workshop

Louf, T., Sanchez, D., Ramasco, J.J.
Capturing the diversity of multilingual societies.

Conference on Complex Systems 2021

Louf, T., Sanchez, D., Ramasco, J.J.
Capturing the diversity of multilingual societies.

Computational Social Science Satellite at the Conference on Complex Systems 2020

Louf, T., Sanchez, D., Ramasco, J.J.
Bilingual societies: from data to agent-based modeling.

Technical skills

Programming (Python)

(Geospatial) data processing, (interactive) visualization, parallel computing on a server cluster, natural language processing, machine learning. I publish all code used in my projects in GitHub repositories, develop small packages (querier, spylt) and contribute occasionally to libraries like GeoPandas[↗], pandas[↗] and Gensim[↗].

Programming (others)

Version control with git, Linux proficiency, documentation writing with Sphinx, Rust (beginner).

Communication

Fluent in French, English and Spanish. Proficient with LaTeX, Inkscape, GIMP.

Academic service

Served as a reviewer for Physica A and the Journal of Linguistic Geography.
Helped the organization of the Conference on Complex Systems 2022 in Palma.

References

- Dr. José J. Ramasco (PhD supervisor), IFISC, jramasco@ifisc.uib-csic.es
- Prof. David Sánchez (PhD supervisor), IFISC, david.sanchez@uib.es
- Dr. Márton Karsai (collaborator), CEU DNDS, karsaim@ceu.edu