




Xurxo Rigueira

Higher School of Computer Engineering
School of Mining and Energy Engineering
Campus As Lagoas-Marcosende
Vigo, Spain 36310

 +1 (909) 955-3913
 xurxo.rigueira@uvigo.es
 xrigueira.io

EDUCATION

- 2021 – Now **University of Vigo**
Ph.D. Student in Computer Science Advised by Prof. David Olivieri and Prof. Maria Araujo
- 2023 – Now **Arizona State University**
Visiting Ph.D. Student under the supervision of Prof. Tianfang Xu
- 2018 – 2020 **University of Vigo**
Master of Science in Mining Engineering
- 2014 – 2018 **University of Vigo**
Bachelor of Science in Mining and Energy Engineering
- 2017 – 2018 **California State University, East Bay**
Exchange Student in Environmental Science

PUBLICATIONS

- 2023 **Computer vision application for improved product traceability in the granite manufacturing industry**
Javier Martinez, Xurxo Rigueira, Maria Araujo, Eduardo Giraldez, and Antonio Recaman
Materiales de Construcción 2023, 73 (351)
- Impact of artificial intelligence on assessment methods in primary and secondary education: Systematic literature review**
Miguel Martinez, Xurxo Rigueira, Ana Larrañaga, Javier Martinez, Iago Ocaranza, and Denis Kreible
Psicodidactica 2023, 28 (2), 93-103
- Bayesian machine learning and functional data analysis as a two-fold approach for the study of acid mine drainage events**
Xurxo Rigueira, Maria Pazo, Maria Araujo, Saki Gerassis, and Elvira Bocos
Water 2023, 15 (8), 1553
- Multivariate functional data analysis v. random forest for anomaly detection in water data**
Xurxo Rigueira, David Olivieri, Maria Araujo, Angeles Saavedra, and Maria Pazo
Under review
- 2022 **Functional data analysis for the detection of outliers and study of the effects of the COVID-19 pandemic on air quality: A case study in Gijón, Spain**
Xurxo Rigueira, Maria Araujo, Javier Martinez, Paulino Garcia, and Iago Ocaranza
Mathematics 2022, 10 (14), 2374

CONFERENCES

- 2023 **Real-time incremental machine learning for anomaly detection and surveillance in water quality**
Xurxo Rigueira, David Olivieri, Maria Araujo Maria Pazo, and Elena Alonso
Water Innovation and Circularity Conference. Athens, Greece, (2023.6)
- 2022 **Computer vision application for improved product traceability in the granite manufacturing industry**
Xurxo Rigueira, Javier Martinez, Maria Araujo, Eduardo Giraldez, and Antonio Recaman
5th International Conference on Production Economics and Project Evaluation. Castelo Branco, Portugal. (2022.9)

Multivariate functional data analysis for outlier detection in environmental data

Xurxo Rigueira, Javier Martinez, Maria Araujo, Maria Pazo, and Javier Taboada
Modelling in Engineering and Human Behaviour. Valencia, Spain. (2022.7)

Directional outlyingness for the detection of functional outliers in water quality data

Xurxo Rigueira, Javier Martinez, Maria Araujo, and Eduardo Giraldez
International Congress on Water, Waste, and Energy Management. Rome, Italy. (2022.7)

TEACHING EXPERIENCE

Teaching Assistant

2024 **Informatics: Computing for Engineering (V09G311V01110)**, University of Vigo
Introductory level course, 50 students (Instructor: Prof. Manuel Pérez Cota)

Outreach speaker

2020 – Now **Introduction to Smart Materials**, University of Vigo
25+ Introductory level seminars, 20 students per seminar on average

2022 – Now **Introduction to Artificial Intelligence**, University of Vigo
10+ Introductory level seminars, 25 students per seminar on average

HONORS AND AWARDS

2022 **Undergraduate Excellence Award for Admitted Ph.D. Students**, University of Vigo

Fulton Fellowship, Arizona State University

2020 **Graduated with honors**, Class of 2020, University of Vigo

2018 **Salutatorian**, Class of 2018, University of Vigo

2017 **International Student Scholarship**, [International Student Exchange Program \(ISEP\)](#)

RESEARCH GRANTS

2020 **Spanish Ministry of Science and Innovation (PID2020-116013RB-I00)**
Co-author

MENTORING EXPERIENCE

One-on-one mentoring

2023 – Now **Antia Vidal** (Undergraduate Student at the University of Vigo)
Co-supervised with Prof. Maria Araujo
Comparative between functional data analysis and machine learning models for the detection of anomalies in air quality data.

INDUSTRY EXPERIENCE

2020 **Industrial and Production Engineer (Soltec Ingenieros)**
Completed 50+ energy audits for shopping centers and finished the renewable energy plan for the town of As Pontes, Spain, which received media coverage by [El Periódico de la Energía](#).

2019 **Engineering Intern (Soltec Ingenieros)**
Helped senior engineers complete 2+ environmental engineering projects.

PROFESSIONAL SERVICE

Paper reviewing

2022 Mathematical Problems in Engineering

Volunteering

2018 Science Contest Judge for [Mesa USA](#)

REFERENCES

Advisor **Professor Maria Araujo**, maraujo@uvigo.es,
Department of Natural Resources and Environmental Engineering, University of Vigo

Advisor **Professor David Olivieri**, olivieri@uvigo.es,
Department of Computer Science, University of Vigo

Collaborator **Dr. Ignacio Perez**, iperez@uvigo.es,
Department of Natural Resources and Environmental Engineering, University of Vigo

Former Ad-visor **Professor Javier Martinez**, javmartinez@uvigo.es,
Department of Applied Mathematics II, University of Vigo