

CURRICULUM VITAE – ROI NAVEIRO FLORES

PERSONAL INFORMATION	<p>Roi Naveiro Flores Institute of Mathematical Sciences (ICMAT-CSIC) Campus Cantoblanco UAM. C/ Nicolás Cabrera, 13-15, 28049, Madrid, SPAIN tel: +34 912999 733 cell phone: +34 679630996 GitHub: roinaveiro roi.naveiro@icmat.es</p>
EDUCATION	<p>PhD program at the Complutense University of Madrid (2016-present). Advisors: David Ríos Insua (ICMAT-CSIC) and David Gómez-Ullate Oteiza (Cádiz University & Complutense University of Madrid). PhD program: <i>Mathematical Engineering, Statistics and Operational Research</i>. (http://www.mat.ucm.es/imeio/)</p> <p>Masters degree in theoretical physics from the Complutense University of Madrid (2016-2017). GPA: 9.3/10.0. Thesis advisor: David Gómez-Ullate Oteiza (ICMAT-CSIC & Complutense University of Madrid). Thesis title: <i>Random Forest Algorithm in Fraud Detection</i>.</p> <p>Bachelor degree in physics from the University of Salamanca (2011-2015). GPA: 9.1/10.0. Thesis advisor: David Rodríguez Entem (University of Salamanca). Thesis title: Resolution of the nucleon-nucleon scattering problem using N/D method.</p> <p>Leonés school (2009-2011) Secondary studies specializing in science and technology at Leonés school located in León (Spain).</p>
JOB EXPERIENCES	<p>2016 October → present FPU PhD research scholar on Machine Learning and Security at the Institute of Mathematical Science (ICMAT-CSIC) located in Madrid, Spain.</p> <p>2015 July → September 2015 Research scholar at the Astrophysical Institute of the Canary Island(IAC) located in Tenerife, Canary Islands, Spain. Working for the project <i>Searching for star clusters in the dwarf irregular galaxy IC1613</i>.</p> <p>2014 September → 2015 July Research scholar at the Institute of Fundamental Physics and Mathematics (IUFFyM) located in Salamanca, Spain. Working for the project <i>Resolution of Nucleon-Nucleon scattering with the N/D method</i>.</p>
STAYS IN NATIONAL AND INTERNATIONAL CENTERS	<p>2019 July → 2019 December Stay at the Statistical and Applied Mathematical Sciences Institute (SAMSU) and the department of Statistical Science of Duke University, Durham (North Carolina).</p> <p>2019 January Stay at University of Cádiz, Cádiz (Spain).</p>

2018 August → 2018 December Stay at the department of Statistical Science of Duke University, Durham (North Carolina), working with Professor David L. Banks.

PUBLICATIONS

- Adversarial Classification: An adversarial Risk Analysis approach (2019). Naveiro, R., Redondo, A., Insua, D. R., & Ruggeri, F. *International Journal of Approximate Reasoning*.
- Large Scale Automated Forecasting for Monitoring Network Safety and Security (2019). Naveiro, R., Rodríguez, S., & Ríos Insua, D. *Applied Stochastic Models in Business and Industry*.
- Gradient Methods for Solving Stackelberg Games. Naveiro, R., & Ríos Insua, D. *Lecture Notes in Computer Science*.
- Reinforcement Learning under Treats. (2019). Gallego, V., Naveiro, R., & Ríos Insua, D. *AAAI 2019. Student Track*.
- Opponent Aware Reinforcement Learning (2019). Gallego, V., Naveiro, R., & Ríos Insua, D. *arXiv preprint arXiv:1809.01560. (Preprint submitted to the Artificial Intelligence)*.
- Augmented Probability Simulation Methods for Non-cooperative Games. (*In preparation*).

TEACHING
EXPERIENCES

- 2019 February → 2019 May** Course on Machine Learning with R targeted to researchers from the Instituto Nacional de Estadística (National Statistics Institute). INE, Spain.
- 2019 February → 2019 May** Lecturer of Applications of Stochastic Processes for undergraduate students in the last year of the degree on Mathematics. University Complutense of Madrid, Spain.
- 2018 June** Teaching assistant in the XII Modelling Week for master students of the *Master of Mathematical Engineering*. University Complutense of Madrid, Spain.
- 2017 November → 2017 December** Courses on Python and Data Science at *Dirección General de Ordenación del Juego (DGOJ)*, Ministry of Finance, Spain.

TRANSFERENCE
PROJECTS

- 2018 October → 2019 February** Geoprofiling systems. Partner: A3SEC.
- 2016 October → 2017 July** Monitoring for anomalous behaviour in massive traffic time series using dynamic linear models. Partner: A3SEC.
- 2015 November → 2016 July** Fraud Detection in Electronic Payments. Partner: Evendor Engineering.

CONFERENCES AND
INTERNATIONAL
SCHOOLS

- 2019 August 12th → 2019 August 16th** Attendance to the conference: *Deep Learning Opening Workshop*, organized by the Statistical and Applied Mathematical Sciences Institute.
- Poster:** *Gradient Methods for Solving Stackelberg Games*. Duke University, Durham, NC (USA).

- 2019 August 5th → 2019 August 9th** Attendance to the conference: *Games, Decisions, Risk and Reliability Opening Workshop*, organized by the Statistical and Applied Mathematical Sciences Institute.
Poster: *Augmented Probability Simulation Methods for Non-cooperative Games*. NC State University, Raleigh, NC (USA).
- 2019 July 30th → 2019 August 2nd** Attendance to the conference: *Second Conference on Risk Analysis in the Digital Era*, organized by the Society for Risk Analysis and the University at Buffalo.
Poster: *Augmented Probability Simulation Methods for Non-cooperative Games*. Buffalo (USA).
- 2019 June 12th → 2019 June 14th** Invited speaker to the conference: *Eleventh Workshop on Bayesian Inference in Stochastic Processes*, organized by the Spanish Royal Academy of Natural Sciences in collaboration with ICMAT-CSIC. Madrid (Spain).
Talk: *Reinforcement Learning Under Threats*.
- 2018 July 23rd → 2018 July 27th** Attendance to the Summer School: *2nd International Summer School on Deep Learning*, organized by University of Genova and IRDTA - Brussels/London. Genova (Italy).
- 2018 May 29th → 2018 June 1st** Attendance to the conference: *XXXVII National Congress of Statistics and Operational Research*, organized by the Spanish Society of Statistics and Operational Research (SEIO).
Talk: *Adversarial Classification: An Adversarial Risk Analysis approach*. Nominated for the prize *Ramiro Melendreras*. Oviedo (Spain).
- 2017 November 13th → 2017 November 15th** Attendance to the conference: *1st Spanish Young Statisticians and Operational Researchers Meeting (SYSORM)*, organized by the Spanish Society of Statistics and Operational Research (SEIO) in collaboration with University of Granada (Spain).
Talk: *Adversarial Classification: An Adversarial Risk Analysis approach*. Granada (Spain).
- 2017 September 4th → 2017 September 6th** Attendance to Summer School: *Accelerating Data Science with HPC*, organized by the CSCS-ICS-DADSi. Lugano (Switzerland).
- 2017 June 13th → 2017 June 15th** Attendance to the conference: *Bayesian Inference in Stochastic Processes (BISP10)*, organized by the Bocconi University in collaboration with the International Society for Bayesian Analysis (ISBA). Milano (Italy).
Talk: *Monitoring for anomalous behaviour in massive traffic time series*.
- 2017 June 7th → 2017 June 9th** Attendance to the conference: *Games and Decisions in Risk and Reliability (GDRR)*, organized by the Spanish Royal Academy of Natural Sciences in collaboration with ICMAT-CSIC. Madrid (Spain).
Talk: *Fraud detection in electronic payments*.
- 2017 January 16th → 2017 January 20th** Attendance to Winter School: *Memory School*, organized by the Centre de Recerca Matemàtica as part of the Intensive Research Program on the Mathematics of Memory (MATHMEM). Barcelona (Spain).

2016 October 27th → 2016 October 28th Attendance to the workshop: *Mathematical Solutions for Industry: Success Stories and perspectives*, organized by the Institute of Mathematical Sciences (ICMAT) in collaboration with Red Española de Matemática Industrial (Math-in). Madrid (Spain).

Poster Presentation: *Random Forest Algorithm in Fraud Detection*.

2016 March 9th Attendance to the conference: *BBVA-spor winter day. Data Science and Statistical Learning*, organized by the Institute of Mathematical Sciences (ICMAT). Madrid (Spain).

ORGANIZED CONFERENCES

2019 June 12th → 2019 June 14th 11th Workshop on Bayesian Inference in Stochastic Processes at the Spanish Royal Academy of Sciences.

2019 May 20th → 2019 May 24th 2nd BYMAT Conference: Bringing Young Mathematicians Together at the Institute of Mathematical Sciences (ICMAT-CSIC). *BYMAT Network with Fundación BBVA as exclusive partner*.

2018 May 7th → 2018 May 9th 1st BYMAT Conference: Bringing Young Mathematicians Together at the Institute of Mathematical Sciences (ICMAT-CSIC). *BYMAT Network with Fundación BBVA as exclusive partner*.

2017 June 7th → 2017 June 9th 5th symposium on Games and Decisions in Reliability and Risk at the Spanish Royal Academy of Sciences.

STUDY GROUPS WITH INDUSTRY

2018 June 18th → 2018 June 22th Attendance to XII Modelling Week of the *Master of Mathematical Engineering* organized by University Complutense of Madrid. Madrid (Spain).

Challenge: Machine Learning techniques in the modeling of credit risk admission.

2017 May 15th → 2017 May 19th Attendance to European Study Group with Industry: *ESGI 131*, organized by the Basque Centre for Applied Mathematics (BCAM) in collaboration Red Española de Matemática Industrial (Math-in). Bilbao (Spain).

Challenge: Big Data in Sports: Predictive Models for Basketball Player's Performance.

AWARDS

2018 September Short term research scholarship by the Spanish Ministry of Education for a stay in Duke University, Durham (North Carolina).

2016 June FPU scholarship by the Spanish Ministry of Education for PhD studies.

2015 May Research scholarship by the Astrophysical Institute of the Canary Island (IAC) located in Tenerife, Spain.

2014 October Research scholarship by the Institute of Fundamental Physics and Mathematics (IUFFyM) located in Salamanca, Spain.

2011 July Graduated with honours in secondary studies, specializing in science and technology by Leonés High School located in León, Spain.

2010 June First Certificate in English by the University of Cambridge.

COURSES TAKEN

- 2018 January** Ordinal Classification. Autonomous University of Madrid.
- 2018 January** Entrepreneurship and Innovation. Polytechnic University of Madrid.
- 2017 November** Stochastic Differential Equations. Complutense University of Madrid.
- 2017 October** Support Vector Machines: Mathematical Optimization in Supervised Learning Problems. Complutense University of Madrid.
- 2017 June 22nd** Introduction to parallel programming. Institute of Mathematical Sciences (ICMAT-CSIC).
- 2017 May 4th** Introduction to high performance computing infrastructures. Institute of Mathematical Sciences (ICMAT-CSIC).
- 2017 May** Probabilistic Graphical Models 1: Representation (with Honors). Stanford University. Coursera Platform. *License Number: 9QMVW5P8T8DN*.
- 2017 March** Developing Data Products. Johns Hopkins University. Coursera Platform. *License Number: 4PA4FMXRGXEA*.
- 2017 March** Practical Machine Learning. Johns Hopkins University. Coursera Platform. *License Number: UVBWB3S73LCE*.
- 2017 March** New Approaches to Inferential Methods Based on Empirical Likelihood. Complutense University of Madrid.
- 2017 February** Regression Models. Johns Hopkins University. Coursera Platform. *License Number: NWTMQS8K7ARW*.
- 2017 January** Survival Analysis. Statistical Evaluation of Diagnosis Tests. Complutense University of Madrid.
- 2017 January** Statistical Inference. Johns Hopkins University. Coursera Platform. *License Number: BH963LMZ463G*.
- 2016 December** Reproducible Research. Johns Hopkins University. Coursera Platform. *License Number: L76S5KNZ4R29*.
- 2016 November** Game Theory. Complutense University of Madrid.
- 2016 November** Mathematical modelization of cognition in robots. Complutense University of Madrid.
- 2016 November** Exploratory Data Analysis. Johns Hopkins University. Coursera Platform. *License Number: D3PZR4QTB7RV*.
- 2016 November** Getting and Cleaning Data. Johns Hopkins University. Coursera Platform. *License Number: W3XEPD5JND4Z*.
- 2016 October** Multicriteria decision. Complutense University of Madrid.
- 2016 October** R Programming. Johns Hopkins University. Coursera Platform. *License Number: X7UUSQEX3B9N*.
- 2016 October** The Data Scientist's Toolbox. Johns Hopkins University. Coursera Platform. *License Number: 6W9VBD2985E5*.

COMPUTER SKILLS	<p>Programming, scripting and markup languages Python, R, R Markdown, Bash, Mathematica, L^AT_EX, C and Fortran.</p> <p>Operating systems Advanced experience with most flavours of Linux: Ubuntu, Debian. Experienced with Mac OS and to some extent Microsoft Windows.</p> <p>Databases MySQL and SQLite.</p>
LANGUAGE SKILLS	<p>Galician: Native tongue. Spanish: Native tongue. English: Fluent. Portuguese: Basic. Italian: Basic.</p>
EXTRACURRICULAR ACTIVITIES	<p>2013 July <i>Youth Pass</i> certificate for participating in the project <i>Emplea tu creatividad</i> which was an exchange programme involving 22 students from Italy and Spain.</p> <p>2012 November Awarded with a debating certificate by the University of Salamanca.</p>