Felipe Maciel Cardoso

Data Scientist | Behavioural Researcher

- December 19, 1988
- Zaragoza, Spain
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Skills

Design & Analysis of Experiments

Data Analysis in R and Python

Databases & SQL

Agent-Based Modeling

Behavioural Game Theory

Inference, Regression & Machine Learning

Data Visualization

Software Engineering

Information Retrieval & Preprocessing

Complex & Social Network Analysis

Time Series & Panel Data Analysis

Agile Software Development

Web Application Development

Topic Modelling & NLP

Mobile Software Development (Android)

Mentoring

Languages

- Portuguese ●●●●●
- English ●●●●○
- Spanish ●●●●○

Education

2017 – 2020	**PhD in Physics**	University of Zaragoza
	Thesis: *Strategic and Selfless interactions: A study of human behaviour*	
2014 – 2016	**MSc in Computer Science**	University of Campinas
	Thesis: *Topical Homophily in an Online Social Network*	
2008 – 2012	**Bachelor of Computer Science**	University of Campinas

Working Experience

Research & Data Science

2017 – 2021 · Research assistant · University of Zaragoza & UC3M
Analysed data from experiments and social networks using econometric models and machine learning algorithms (R and Python). Developed platforms for socio-economic experiments using Django/Python and PostgreSQL databases. Developed a novel theoretical model explaining the origins of cooperation. Coded simulations in C++.

Software Development

2013 – 2014 · Software Engineer · Kaffa Mobile
Developed mobile and web applications for GIS using Java, Lua, SQL Server, HSQLDB, and H2. Performed requirements analysis directly with stakeholders.

2012 – 2013 · Software Developer · MC1
Developed applications for Android and Windows mobile devices. Ported Windows Mobile (C#) code to Android (Java). Managed SQL Server and SQLite databases. Mentored interns.

2011 – 2012 · Software Engineer · Kaffa Mobile
Developed mobile applications using Java, Lua, SQL Server, HSQLDB, and H2.

2011 – 2011 · Web Developer · CPqD
Developed an interactive map for the GIGA Project using Java and JavaScript.

2009 – 2011 · Web Developer · Institute of Economics - UNICAMP
Developed management systems using Java, JavaScript, JSF, and SQL Server.

2008 – 2008 · Web Developer · Celere IT
Developed web applications with C#.NET, ASP.NET, and SQL Server.

2007 – 2007 · Software Developer · John & Mark IT Solutions
Participated in the development of an ERP software using Visual Basic.NET and SQL Server.

Exchanges

2019 · Institute for Scientific Interchange · Turin, Italy
One month exchange at the ISI Foundation.

2018 · Institute for Scientific Interchange · Turin, Italy
One month exchange at the ISI Foundation

2015 – 2016 · University of Zaragoza · Zaragoza, Spain
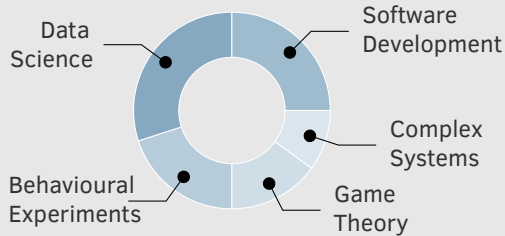Six months exchange at the COSNET Lab.

Grants & Awards

2015 – 2016 · Open Data Scholarship · Microsoft Research
17 Months Master Scholarship

2015 – 2016 · International Mobility Scholarship · Santander
Mobility scholarship for 6 months exchange at University of Zaragoza

2014 – 2016 · Master Scholarship · CAPES
3 Months Scholarship

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Expertise

- Data Science
- Software Development
- Complex Systems
- Game Theory
- Behavioural Experiments

Programming Languanges

Python | R | C++ | Java | Lua | C
C# | JavaScript

Databases

PostgreSQL | MySQL | SQL Server
HSQLDB | SQLite

Development Methodologies

Scrum | Kanban

Libraries & Tools

caret | lme4 | plm | ggplot2
tidyverse | igraph | Shiny | knitr
NumPy | Cython | SciPy | Keras
Scikit-learn | Pandas | graph-tool
NLTK | Gensim | Git | Callgrind
Django

Referee Experience

PLoS ONE | Physical Review E
Chaos, Solutions & Fractals | JSTAT
Journal of Complex Networks

2011	**1st Place on the Evaluation Competition** IHC+CLIHC 2011
	Usability Evaluation of TelEduc 4 on Tablets - Undergraduate Level

Publications

2020 — **Dynamics of heuristics selection for cooperative behaviour**
F. Maciel Cardoso, C. Gracia-Lázaro, and Y. Moreno
New Journal of Physics

2020 — **Behavioural patterns behind the demise of the commons across different cultures**
*M. Jusup, **F. Maciel-Cardoso**, C. Gracia-Lázaro, C. Liu, Z. Wang, and Y. Moreno*
Royal Society Open Science

2020 — **Effect of network topology and node centrality on trading**
F. Maciel Cardoso, C. Gracia-Lázaro, F. Moisan, S. Goyal, A. Sánchez, and Y. Moreno
Scientific Reports

2020 — **Understanding drivers when investing for impact: an experimental study**
*L. De Amicis, S. Binenti, **F. Maciel Cardoso**, C. Gracia-Lázaro, A. Sánchez, and Y. Moreno*
Palgrave Communications

2020 — **Time evolution of the behaviour of Brazilian legislative Representatives using a complex network approach**
*L. Marenco, H.A. Carmona, **F. Maciel Cardoso**, J.S. Andrade Jr, and C.L. Cesar*
PLoS ONE

2019 — **Topical Alignment in Online Social Systems**
F. Maciel Cardoso, S. Meloni, A. Santanche, and Y. Moreno
Frontiers in Physics

Talks

2020 — **6th Annual Workshop on Complex Sociotechnical Systems**
COMSOTEC20, Burgos, Spain
The selection of heuristics and the evolution of cooperation

2019 — **Early Career Researcheers in Experimental Economics Workshop**
ECREEW, Santiago de Compostela, Spain
Indirect donations promote contributions to public goods

2019 — **Conference on Complex Systems**
CCS19, NTU University, Singapore
Trading in Complex Networks

2019 — **BIFI IX National Conference 2019**
BIFI 19, Zaragoza, Spain
Trading in Networks - Topology and Prices

2018 — **Conference of Complex Systems**
CCS18, Thessaloniki, Greece
Universal behavioural patterns behind the demise of the commons

2018 — **4th Annual Workshop on Complex Sociotechnical Systems**
COMSOTEC18, Zaragoza, Spain
Trading in Networks: Efficiency and Topology

Academic Activities

2015 — **Teaching Assistant - IC/UNICAMP**
Algorithms and Computer Programming
Laboratory classes, marking, assignment review, office hours, online support.

2018 — **BIFI18 Zaragoza, Spain**
BIFI International Conference on Complexity, Networks and Collective Behavior
Web design, implementation and local organization.