

# Felipe Maciel Cardoso | CV

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[fmc Cardoso.github.io/](https://fmc Cardoso.github.io/)

## Expertise

**Data Analysis:** Full-Stack Big Data Analysis, Time Series Analysis, Panel Data Analysis, Dynamic Panel Models, Neural Networks, LSTM Networks, Data Visualization, Clustering Algorithms

**Programming Languages:** Python, R, C++, Java, Lua, C, C#, Javascript

**Research Tools:** NumPy, SciPy, R libraries (*lme4, plm, ggplot2, sandwich,...*), Scikit-learn, Pandas, igraph, graph-tool, NLTK

**Databases:** PostgreSQL, MySQL, SQL Server, HSQLDB, SQLite

## Employment

### University of Zaragoza

Zaragoza, Spain

Research assistant

02/2019 -

Development of platforms for socio-economic experiments using Django/Python and PostgreSQL databases. Execution and data analysis of experiments using econometric models and machine learning algorithms. Theoretical modelling in evolutionary game theory.

### UC3M

Madrid, Spain

Research assistant

02/2017 - 01/2019

Development of platforms for socio-economic experiments using Django/Python and PostgreSQL database. Execution and data analysis of experiments using econometric models and machine learning algorithms.

### Kaffa Mobile

Campinas, Brazil

Software Engineer

10/2013 - 07/2014

Development of mobile and web applications with Java and Lua for GIS. SQL Server, HSQLDB and H2 databases. Requirements analysis directly with stakeholders.

### MC1

Campinas, Brazil

Developer

07/2012 - 10/2013

Development of applications for Android and Windows mobile devices. Ported Windows Mobile (C#) code to Android (Java). SQL Server and SQLite databases. Training of interns.

### Kaffa Mobile

Campinas, Brazil

Intern

5/2011 - 06/2012

Development of applications with Java and Lua for mobile devices. SQL Server, HSQLDB and H2 databases.

### CPqD

Campinas, Brazil

Intern

1/2011 - 05/2011

Web Development with Java and Javascript.

### Institute Of Economics - UNICAMP

Campinas, Brazil

Intern

7/2009 - 1/2011

Development of Web Applications using Java, Javascript, JSF, and SQL Server Database.

### Celere IT

Campinas, Brazil

Intern

4/2008 - 11/2008

Development of Web Applications with C#.NET, ASP.NET, and SQL Server Database.

**John & Mark IT Solutions**

**São José dos Campos, Brazil**

*Intern*

*1/2007 - 12/2007*

Software Development with Visual Basic.NET and SQL Server.

## Education

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**University of Zaragoza**

**Zaragoza, Spain**

*PhD Candidate in Physics*

*2017 - 2020 (expected)*

**Advisors:** Prof. Yamir Moreno & Dr. Carlos Gracia Lázaro

**Thesis:** Strategic and Selfless interactions: A study of human behaviour

**University of Campinas**

**Campinas, Brazil**

*MSc in Computer Science*

*2014 - 2016*

**Advisor:** Prof. André Santanchè

**Thesis:** Topical Homophily in an Online Social Network

**University of Campinas**

**Campinas, Brazil**

*Bachelor of Computer Science*

*2008 - 2012*

## Exchanges

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**ISI Foundation**

**Turin, Italy**

*Institute for Scientific Interchange*

*06/2019 – 07/2019*

**ISI Foundation**

**Turin, Italy**

*Institute for Scientific Interchange*

*06/2018 – 07/2018*

**University of Zaragoza**

**Zaragoza, Spain**

*Six months exchange at the COSNET Lab.*

*09/2015–02/2016*

## Grants & awards

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**CAPES**

*Master Scholarship*

*07/2016*

**Microsoft Research - Open Data Scholarship**

*Master Scholarship*

*03/2016 - 06/2016*

**Santander International Mobility Scholarship**

*Mobility scholarship for 6 months exchange at University of Zaragoza*

*07/2015 - 02/2016*

**CAPES**

*Master Scholarship*

*12/2014-02/2015*

**IHC+CLIHC 2011**

*1st Place on the Evaluation Competition, Undergraduate Level.*

*2011*

## Publications

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2020 M. Jusup, **F. Maciel-Cardoso**, C. Gracia-Lázaro, C. Liu, Z. Wang, and Y. Moreno, "Behavioural patterns behind the demise of the commons across different cultures", *Royal Society Open Science*, DOI: doi.org/10.1098/rsos.201026

2020 **F. Maciel Cardoso**, C. Gracia-Lázaro, F. Moisan, S. Goyal, A. Sánchez, and Y. Moreno, "Effect of network topology and node centrality on trading", *Scientific Reports*, DOI:doi.org/10.1038/s41598-020-68094-z

2020 L. De Amicis, S. Binenti, **F. Maciel Cardoso**, C. Gracia-Lázaro, A. Sánchez, and Y. Moreno, "Understanding drivers when investing for impact: an experimental study", *Palgrave Communications*, DOI: doi.org/10.1057/s41599-020-0447-y

2020 L. Marengo, H.A. Carmona, **F. Maciel Cardoso**, J.S. Andrade Jr, and C.L. Cesar, "Time evolution of the behaviour of Brazilian legislative Representatives using a complex network approach", *PLoS ONE*, DOI: doi.org/10.1371/journal.pone.0226504

2019 F. Maciel Cardoso, S. Meloni, A. Santanche, and Y. Moreno, "Topical Alignment in Online Social Systems", *Frontiers in Physics*, DOI: doi.org/10.3389/fphy.2019.00058

## Papers under review & in preparation

- **F. Maciel Cardoso**, C. Gracia-Lázaro, and Y. Moreno, " Dynamics of heuristics selection for cooperative behaviour", *New Journal of Physics*, accepted.
- **F. Maciel Cardoso**, S. Meloni, C. Gracia-Lázaro, A. Antonioni, José A. Cuesta, A. Sánchez, and Y. Moreno, "Framing in multiple public goods games and donation to charities", *under review*.
- H. Ferraz de Arruda, **F. Maciel Cardoso**, G. Ferraz de Arruda, A.R. Hernández, L. da F. Costa, and Y. Moreno, "How social network algorithms can influence opinion polarization", *in preparation*.
- **F. Maciel Cardoso**, M. Jusup, C. Gracia-Lázaro, Z. Wang, A. Sánchez, and Y. Moreno, "Targets and biases: a collective-risk social dilemma between two countries", *in preparation*.

## Talks

<b>COMSOTEC20</b> <i>6th Annual Workshop on Complex Sociotechnical Systems</i> The selection of heuristics and the evolution of cooperation	<b>Burgos, Spain</b> 2020
<b>ECREEW</b> <i>Early Career Researchers in Experimental Economics Workshop</i> Indirect donations promote contributions to public goods	<b>Santiago de Compostela, Spain</b> 2019
<b>CCS19</b> <i>Conference on Complex Systems</i> Trading in Complex Networks	<b>NTU University, Singapore</b> 2019
<b>BIFI 19</b> <i>BIFI IX National Conference 2019</i> Trading in Networks - Topology and Prices	<b>Zaragoza, Spain</b> 2019
<b>CCS18</b> <i>Conference of Complex Systems</i> Universal behavioural patterns behind the demise of the commons	<b>Thessaloniki, Greece</b> 2018
<b>COMSOTEC18</b> <i>4th Annual Workshop on Complex Sociotechnical Systems</i> Trading in Networks: Efficiency and Topology	<b>Zaragoza, España</b> 2018

## Poster

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<b>COSTNET ECT</b> <i>COSTNET: Early Career Training Event</i> Trading in Complex Networks	<b>Munich, Germany</b> 2019
<b>BIFI18</b> <i>BIFI International Conference on Complexity, Networks and Collective Behavior</i> Topical homophily in online social systems	<b>Zaragoza, Spain</b> 2018
<b>COSTNET17</b> <i>Statistical Network Science</i> Topical homophily in online social systems	<b>Mallorca, Spain</b> 2017

## Schools Attended

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<b>SEMSTAT17</b> <i>Statistical Network Science</i>	<b>Eindhoven, Netherlands</b> 2017
<b>NetSci-X 2015</b> <i>1st International School and Conference on Network Science</i>	<b>Rio de Janeiro, Brazil</b> 2015

## Academic Activities

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<b>Teaching Assistant</b> <i>Algorithms and Computer Programming</i> Laboratory classes, marking, assignment review, office hours, online support.	<b>University of Campinas</b> 2015
<b>Invited Lecture</b> <i>Database course</i> Two Lectures about Complex Networks given to undergraduate and graduate students.	<b>University of Campinas</b> 2015
<b>XI Theses and Dissertations Workshop - WTD</b> <i>Examination Board Member</i> Evaluation of theses and dissertations proposals.	<b>IC - University of Campinas</b> 2016

## Referee experience

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- PLoS ONE
- Physical Review E
- Chaos, Solutions & Fractals
- Journal of Statistical Mechanics: Theory and Methods
- Journal of Complex Networks

## Conference Organization

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<b>BIFI18</b> <i>BIFI International Conference on Complexity, Networks and Collective Behavior</i> Web design, implementation and local organization	<b>Zaragoza, Spain</b> 2018
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Languages

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**Portuguese:** Native                      **English:** Fluent                      **Spanish:** Fluent