MARIE SKŁODOWSKA-CURIE POSTDOCTORAL FELLOWSHIPS 2025
EXPRESSION OF INTEREST FOR HOSTING MARIE CURIE FELLOWS

HOST INSTITUTION

NOVA Information Management School (NOVA IMS), Universidade Nova de Lisboa, Lisbon, Portugal

RESEARCH GROUP AND URL

Data Science Research Stream: https://magic.novaims.unl.pt/en/about-us/research-lines/

SUPERVISOR (NAME AND E-MAIL)

Flávio Luís Portas Pinheiro (fpinheiro@novaims.unl.pt)

SHORT CV OF THE SUPERVISOR

Flavio L. Pinheiro is an Assistant Professor in Data Science at NOVA IMS – Universidade Nova de Lisboa. He holds a PhD in Physics from the Universidade do Minho (2016) and was a Postdoctoral Associate at the MIT Media Lab (2016-2018). His research applies data, network, and complexity sciences methods to study topics that include information diffusion and social contagion processes, strategic decision-making, local and global network patterns in education, and economic diversification and sophistication patterns. His interdisciplinary work has been published in top-tier journals and conference proceedings in various disciplines, such as Nature Communications, Research Policy, Regional Studies, EPJ Data Science, Physical Review Letters, PLOS Computational Biology, Theoretical Computer Science, Journal of the Royal Society Interface, Structural Change and Economic Dynamics, International Conference on Autonomous Agents and Multiagent Systems, Proceedings of the European Conference on Artificial Life. Moreover, he has experience in applied research projects and consultancies, including work for the World Bank on smart and inclusive economic diversification in several developing economies, for the OECD on promoting improved frameworks for public procurement contracts, and participation in the Bank of International Settlements conference in joint work with the Bank of Portugal.

5 SELECTED PUBLICATIONS

- **Pinheiro, F. L.**, Hartmann, D., Boschma, R., & Hidalgo, C. A. (2022). The time and frequency of unrelated diversification. *Research Policy*, *51*(8), 104323.
- **Pinheiro, F. L.**, Balland, P. A., Boschma, R., & Hartmann, D. (2022). The dark side of the geography of innovation: relatedness, complexity and regional inequality in Europe. Regional Studies, 1-16.
- Alshamsi, Aamena, **Flávio L. Pinheiro**, and Cesar A. Hidalgo. "Optimal diversification strategies in the networks of related products and of related research areas." Nature communications 9.1 (2018): 1328.
- **Pinheiro, Flávio L**., Francisco C. Santos, and Jorge M. Pacheco. "Linking individual and collective behavior in adaptive social networks." *Physical review letters* 116.12 (2016): 128702.
- Vasconcelos, Vítor V., Simon A. Levin, and **Flávio L. Pinheiro**. "Consensus and polarization in competing complex contagion processes." *Journal of the Royal Society Interface* 16.155 (2019): 20190196.

PROJECT TITLE AND SHORT DESCRIPTION

I am looking to supervise projects in areas related with applied Network and Data Science methods to the study of Economic and Social systems. Below I describe one project example:

3. The Moral Foundations of Political Discourse

Jonathan Haidt theory on Moral Foundations has allowed us to identify the key between Conservatives and Liberals. Recent works have used text mining to extract the morality embedded in political corpus, an approach that provides a view on to which audience each political actor is appealing to quantify how polarized are their views. While much work has been done in the US political sphere, which is characterized by the dominance of two political parties, in Portugal and Europe there is much to be done. Building on previous work, the goal of this project is to study how Portuguese political actors have used morality when discussing topics on abortion, climate, economy, church, and euthanasia. Does the more complex Portuguese political environment show the same key divide between Conservatives and Liberals previously reported in the US? How have the different political actors in our democracy have used morality? Is the Left/Right political spectrum a good characterization of our political ecosystem or are there better alternatives, such as Center/Extremes or Liberal/Conservatives? To this end we will work on a rich parliamentary speech data from Portuguese (50 years) and EU (~15 years) parliament and existing NLP tools for morality extraction.

SCIENTIFIC AREA WHERE THE PROJECT FITS BEST*

Social Sciences and Humanities (SOC) • Economic Sciences (ECO) • Information Science and Engineering (ENG) • Mathematics (MAT) • Physics (PHY)