# Marco Fernández da Silva

Marco is a PhD student in the Physics Program at the University of Zaragoza, currently pursuing his PhD thesis titled "Unraveling Complexity through AI in Data-Rich Systems." After completing his Bachelor's degree in Physics at the University of Zaragoza, he joined the COSNET group, where he began actively participating in its various research lines, particularly those of an interdisciplinary nature that combine approaches from physics, social sciences, and economics.
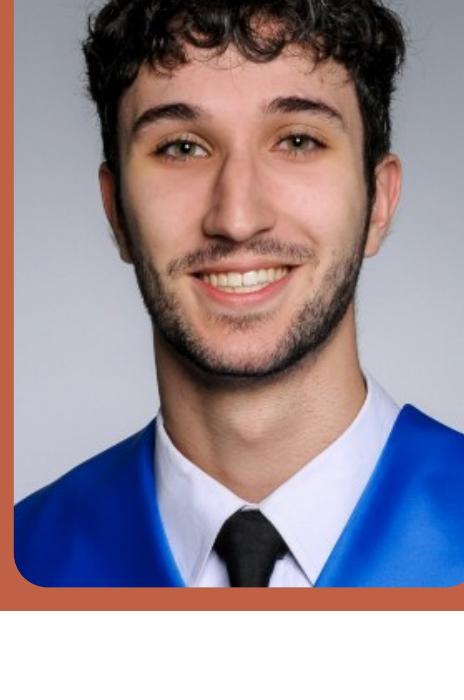
Researcher profile

He is currently an R1-level researcher. His research interests cover a wide range of topics, from exploring new perspectives in coarse-graining methods to studying social behaviors in epidemic diffusion, as well as analyzing dynamics and patterns in economic systems. Overall, his work is aimed at understanding complexity in diverse systems through advanced analytical and computational tools.

Why is his research important?

Many seemingly different phenomena share underlying principles that can be described using common tools from statistical physics, network theory, and artificial intelligence. Through the development of coarse-graining methods and the use of machine learning models in data-rich environments, we can simplify reality without losing the essence of its dynamics. This approach improves the predictive power of models and provides a more unified perspective on how different levels of organization interact within complex systems.

Cosnet Lab, BIFI

AI

COARSE-GRAINING

EPIDEMICS

AI