Alejandro **Almodóvar**

PhD Student in Causal Deep Learning for Health · Assistant professor · Madrid, Spain

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TL;DR

PhD candidate and Assistant Professor at UPM, specializing in causal inference and deep learning for healthcare. Research focused on developing causal deep models for decision-making, survival analysis, and clinical data. First author of a **NeurIPS 2025 Spotlight paper** in collaboration with Saarland University. Author/co-author of **nine publications** and participation in **four major EU AI-health projects** (GenoMed4All, REPO4EU, Synthema, Synthia). Expertise in probabilistic modeling, statistical inference, and biostatistics. Visiting researcher at Saarland University; training at Harvard and Cambridge summer schools. Teaching signal processing, probability, and machine learning at UPM (98 lecture hours). Advisor of several Master's and Bachelor's theses. Combines research, teaching, and European collaboration in applied ML for medicine. Expected PhD completion: September 2026.

EDUCATION

PhD in Communication Systems and Technologies
Universidad Politécnica de Madrid
Currently
Madrid, Spain

Visiting Researcher
Saarland University, Probabilistic Machine Learning Lab
May–Sep 2024
Saarbrücken, Germany

M.S. in Telecommunication Engineering
Universidad Politécnica de Madrid
Jun 2022
Madrid, Spain

B.S. in Telecommunication Engineering
Universidad Politécnica de Madrid
Jun 2020
Madrid, Spain

Highlighted courses

Advanced Counfounded Adjustment
1-week summer school. Harvard University. In person.
Jun 2025
Boston, MA, USA

ELLIS probabilistic machine learning summer school
1-week summer school. Cambridge University. In person.
Jul 2025
Cambridge, UK

SKILLS

Programming: Python (primary), R, LATEX, MatLAB
Tools: Git/GitHub, PyCharm, RStudio, Torch, tensorflow
Topics: Machine learning, Bayesian inference, probabilistic methods, causal learning, statistics
Languages: Spanish (native), English (fluent)

HIGHLIGHTED PUBLICATIONS

Propensity Weighted Federated Learning for Treatment Effect Estimation
***Almodóvar, A.**, Parras, J., Zazo, S. Computers in Biology and Medicine, 178, 108779.*
2024

DeCaFlow: A Deconfounding Causal Generative Model
***Almodóvar, A.**, Javaloy, A., Parras, J., Zazo, S., Valera, I. NeurIPS 2025, SPOTLIGHT.*
2025
San Diego, USA

PROFESSIONAL EXPERIENCE

Assistant Professor
*Universidad Politécnica de Madrid | 98 lecture hours | 4 Master's thesis advised | 1 Bachelor's thesis advised | **Courses:** Digital Signal Processing | Probability and Random Signals | Advanced Data and Signal Processing | Machine learning Lab*
Apr 2024 – Present
Madrid, Spain

PhD Grant (Programa Propio UPM)
Universidad Politécnica de Madrid
Feb 2023 – Apr 2024
Madrid, Spain

HIGHLIGHTED EUROPEAN COMISSION'S PROJECTS

Genomed4all (2022-2025) | **Synthia** (2024-) | **Synthema** (2022-) | **Repo4EU** (2022-)