Tomás Couso Coddou

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RESEARCH INTERESTS

I'm interested in sequential decision-making under partial observability (MDPs and POMDPs), especially motor control, where policies must be sample-efficient and adapt to non-stationary environments. I approach these problems through self-supervised world models, imitation learning, optimal control, and deep reinforcement learning. I take an embodied view of intelligence — cognition is shaped by the body that realizes it — and I anticipate that breakthroughs in motor control will translate into conceptual domains.

EDUCATION

Pontificia Universidad Católica de Chile Mar 2019 – Dec 2024

Professional Degree (Título Profesional), Civil Engineering in Computing · Santiago, Chile

Pontificia Universidad Católica de Chile Mar 2016 – Dec 2018

B.Sc. in Psychology (incomplete) · Santiago, Chile

Coursework in cognitive psychology, neuroscience, and social sciences.

RESEARCH AND PROFESSIONAL EXPERIENCE

National Center for Artificial Intelligence (CENIA) Apr 2026 – Present

Research Engineer · Santiago, Chile

Behavioral cloning methods (Diffusion Policy) and world models over latent states (JEPA).

National Center for Artificial Intelligence (CENIA) Apr 2025 – Mar 2026

Machine Learning Engineer · Santiago, Chile

LatamGPT project. Contributed to cloud-based data processing and to the design and evaluation of pretraining data-distribution experiments.

National Institute of Informatics Dec 2024 – Apr 2025

Research Intern · Tokyo, Japan

Selected for the first call of the 2024 NII International Internship Program, under the supervision of Prof. Yusheng Ji. Worked on reinforcement learning methods applied to agricultural land monitoring using unmanned aerial vehicles (UAVs).

Pontificia Universidad Católica de Chile Mar 2023 – Dec 2024

Research Assistant · Santiago, Chile

Implemented a deforestation detection system based on remote sensing data and Echo State Networks. Research conducted with faculty members Paula Aguirre, Rodrigo Carrasco, and Javier Lopatin.

Lemu Dec 2023 – Feb 2024

Machine Learning Engineering Intern · Santiago, Chile

Implemented a data pipeline for a land-cover classification algorithm at a Chilean startup focused on biodiversity monitoring and conservation.

PUBLICATIONS

1. Couso Coddou, T., et al. Trajectory Planning for UAV-Based Smart Farming Using Imitation-Based Triple Deep Q-Learning. ICRA 2025. arXiv:2512.18604
2. Couso Coddou, T., et al. Enhanced Detection of Human-Driven Forest Alterations using Echo State Networks. NeurIPS 2024 Workshop

LANGUAGES

Spanish — Native · English — Advanced