

PABLO UBILLA PAVEZ

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EDUCATION

- PhD Machine Learning** — INRIA & Université de Montpellier
2025–Now Thesis on *Deep Learning Methods for Species Distribution Models*. Supervised by Diego Marcos & Christophe Botella.
- MSc Ecology and Data Science** — University College London
2023–2024 Degree awarded with Highest Honours (Top 5%). Thesis on *Consensus Clustering for Functional Groups*. Supervised by Daniel Maynard.
- Master Operations Management** — Universidad de Chile
2022–2023 Degree awarded with Highest Honours (Ranked 1/15). Thesis on *Outlier Detection for Elections with Demographic Groups*. Supervised by Charles Thraves.
- Prof. Degree Industrial Engineering** — Universidad de Chile
& **BSc** Degree awarded with Highest Honours (Ranked 1/174). Exchange period at Universiteit Leiden (Spring 2022).

RESEARCH INTERESTS

Machine Learning, Statistics, and Ecology.

PUBLICATIONS

- 2026 Ubilla Pavez, P., Paz, A., & Maynard, D. S. *Functional group classification using consensus clustering*. PLOS Computational Biology, 22(5), 1–25. [doi:10.1371/journal.pcbi.1014278](https://doi.org/10.1371/journal.pcbi.1014278)
- 2024 Thraves, C., Ubilla Pavez, P., & Hermosilla, D. *A Fast Ecological Inference Algorithm for the $R \times C$ case*. Under revision. Preprint available at SSRN 4832834.

SOFTWARE

faitei: Ecological inference methods (R package in CRAN, 2025). Work with Thraves, C., and Hermosilla, D.

WORK EXPERIENCE

- Oct 2024 – Sep 2025 **Airnguru, Data Scientist**
Remote, Chile Developed automation of large-scale pricing strategies (up to billions of fares).
- Jan 2021 – Jan 2022 **Complex Engineering Systems Institute, Research Assistant**
Santiago, Chile Adaptive question selection using dynamic programming, greedy algorithms, and reinforcement learning to maximize the information obtained at the end of a survey.
- Sep 2022 – Jan 2023 **Municipalidad de Vitacura, Data Scientist**
Santiago, Chile Estimated daily street-level recycling collection and optimized truck routes using GPS historical data, leading to a redesigned partition of municipal collection sectors.
- Aug – Oct 2020 **Fundación Tierra Viva, Intern**
Santiago, Chile Contributed in data collection for *Resumen del Estado del Medio Ambiente 2020*.

TEACHING EXPERIENCE

*Seasons correspond to the hemisphere of the institution. †TA: Teaching Assistant; EA: Exam Assistant; MI: Main Instructor.

University College London

- Fall 2023 **Financial Engineering** (TA), MSc Computational Finance
Spring 2024 **Applied Computational Finance** (TA), MSc Computational Finance

Universidad de Chile

- Fall 2023 **Modelling and Optimization** (TA), Industrial Engineering
Fall 2020 **Modelling and Optimization** (TA), Industrial Engineering

Spring 2022 **Decisions Under Uncertainty** (TA), Industrial Engineering
 Spring 2021 **Decisions Under Uncertainty** (TA), Industrial Engineering
 Spring 2021 **Game Theory and Strategy** (TA), Industrial Engineering
 Fall 2021 **Probabilities** (TA), Industrial Engineering
 Fall 2021 **Operations Research** (TA), Industrial Engineering
 Spring 2020 **Operations Research** (TA), Industrial Engineering
 Fall 2022 **Probabilities** (EA), Industrial Engineering
 Fall 2022 **Information Engineering** (EA), Industrial Engineering
 Spring 2019 **Modelling and Optimization** (EA), Industrial Engineering
 Fall 2020 **Introduction to Calculus** (EA), Mathematics Engineering
 Spring 2019 **Introduction to Algebra** (EA), Mathematics Engineering
 Fall 2019 **Probabilities and Statistics** (EA), Mathematics Engineering

Universidad Finis Terrae

Fall 2023 **Stochastic Models** (MI), Industrial and Informatics Engineering

Universidad Adolfo Ibáñez

Summer 2022 **Operations Research** (TA), Industrial Engineering
 Spring 2021 **Operations Research** (TA), Industrial Engineering

AWARDS & SCHOLARSHIPS

2024 **Best Presentation Prize**, MSc Ecology and Data Science
 2024 **Dean's List**, MSc Ecology and Data Science
 2024 **Distinguished Master's Graduate Award**, Postgraduate Engineering School UCH
 2023 **Masters Abroad Scholarship**, *fully funded*, ANID
 2022 **Academic Excellence Scholarship**, MSc Operations Management
 2022 **International Mobility Scholarship**, Santander Bank
 2018–2021 **Outstanding Student**, Faculty of Physics and Mathematics UCH

TALKS & POSTERS

Deep Learning Integration for Species Distribution Models

2026 **World Biodiversity Forum** (*Davos, Switzerland*) (Talk)
 2026 **The European Conference for Biodiversity Monitoring** (*Montpellier, France*) (Talk)
 2026 **Rencontre CiSStats-RESSTE** (*Avignon, France*) (Talk)

Consensus Clustering for Functional Groups

2026 **INRIA PhD Seminar** (*Montpellier, France*) (Talk)
 2024 **British Ecological Society: Macroecology** (*Cardiff, UK*) (Talk)

A Fast Ecological Inference Algorithm for the RxC case

2025 **Workshop in Management Science** (*Pucón, Chile*) (Poster)
 2024 **Operational Research Society 66** (*Bangor, UK*) (Talk)

Optimized sensor deployment in biodiversity monitoring

2024 **Surrey Wildlife Trust Showcase** (*Surrey, UK*) (Talk)

DEVELOPMENT

Summer 2023 **XVIII Summer School in Discrete Mathematics** — ISCV
 Valparaíso, Chile High-chromatic graphs; provable algorithms for machine learning; linear programming.
 Winter 2020 **9th Winter School in Engineering Systems** — Universidad de Chile
 Santiago, Chile Stackelberg games; AI challenges in big data; urban mobility.

SKILLS

Programming	Python, R, SQL, MATLAB	Machine Learning	TensorFlow, PyTorch, Scikit-Learn
Optimization	Gurobi, OR-Tools, CVXPY	Other	Git, L ^A T _E X, HPC