Pablo Ubilla Pavez | CV

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● pabloubilla

☐ EDUCATION

2028 (Expected) **PhD Machine Learning**, *INRIA - Université de Montpellier*
- Supervisor: Diego Marcos
- Research Topic: Deep learning methods for species distribution modelling

2024 **MSc Ecology and Data Science**, *University College London*
- Supervisor: Daniel Maynard
- Thesis: How many types of trees are there? An approach using consensus clustering
- Graduated with Highest Honours, Top 5%

2023 **Master in Operations Management**, *Universidad de Chile*
- Supervisor: Charles Thraves
- Thesis: Outlier detection for multicandidate elections with demographic groups
- Graduated with Highest Honours, Ranked 1/15

2023 **Professional Degree in Industrial Engineering**, *Universidad de Chile*
- Graduated with Highest Honours, Ranked 1/174

2022 **Bachelor in Industrial Engineering**, *Universidad de Chile*
- Graduated with Highest Honours, Ranked 3/142

2022 **Exchange Program**, *Universiteit Leiden*

☐ RESEARCH INTERESTS

Machine learning, statistics, optimization, ecology, and biodiversity.

☐ PREPRINTS

Thraves, Charles and Ubilla, Pablo, **A Fast Ecological Inference Algorithm for the RxC case** (2024). Available at SSRN: https://ssrn.com/abstract=4832834

☐ WORK EXPERIENCE

Oct 2024 – Sep 2025 **Data Scientist & Analyst**, *Airnguru*, Remote
- Developed dynamic pricing automation using Google Cloud Services working with billions of fares
- Designed scalable fare ladder generators and price propagation frameworks

Sep 2022 – Jan 2023 **Data Scientist**, *Municipalidad de Vitacura*, Santiago
- Estimated street-level waste collection using GPS data and truck collection modelling
- Optimized truck routes and daily street clusters using OR-tools to balance waste load
- Achieved a 60% reduction in greatest time discrepancy

Jan 2021 – Jan 2022 **Research Assistant**, *Complex Engineering Systems Institute*
- Applied machine learning methods to impute missing data and estimate probabilities
- Developed and optimized question selection strategies using dynamic programming, greedy algorithms, and reinforcement learning

Aug 2020 – Oct 2020 **Intern**, *Fundación Tierra Viva*, Santiago
- Contributed to Chile's government environmental summary, focusing on citizen science
- Managed databases, designed conditional surveys, and diffusion campaign

☐ TEACHING EXPERIENCE

(*Term season varies depending on the hemisphere)

LECTURER

Fall 2023 **Stochastic Models**, Industrial Engineering, Universidad Finis Terrae

TEACHING ASSISTANT

Spring 2024 **Applied Comp. Finance**, MSc Computational Finance, University College London

Fall 2023 **Financial Engineering**, MSc Computational Finance, University College London

Fall 2023 **Modelling and Optimization**, Industrial Engineering, Universidad de Chile

Summer 2022 **Operations Research**, Industrial Engineering, Universidad Adolfo Ibáñez

Spring 2022 **Decisions Under Uncertainty**, Industrial Engineering, Universidad de Chile

Spring 2021 **Decisions Under Uncertainty**, Industrial Engineering, Universidad de Chile

Spring 2021 **Game Theory and Strategy**, Industrial Engineering, Universidad de Chile

Spring 2021 **Operations Research**, Industrial Engineering, Universidad Adolfo Ibáñez

Fall 2021 **Operations Research**, Industrial Engineering, Universidad de Chile

Fall 2021 **Probabilities**, Industrial Engineering, Universidad de Chile

Spring 2020 **Operations Research**, Industrial Engineering, Universidad de Chile

Fall 2020 **Modelling and Optimization**, Industrial Engineering, Universidad de Chile

EXAM ASSISTANT

Fall 2022 **Probabilities**, Industrial Engineering, Universidad de Chile

Fall 2022 **Information Engineering**, Industrial Engineering, Universidad de Chile

Fall 2020 **Introduction to Calculus**, Mathematics Engineering, Universidad de Chile

Spring 2019 **Modelling and Optimization**, Industrial Engineering, Universidad de Chile

Spring 2019 **Introduction to Algebra**, Mathematics Engineering, Universidad de Chile

Fall 2019 **Probabilities and Statistics**, Mathematics Engineering, Universidad de Chile

☐ AWARDS & SCHOLARSHIPS

2024 **Best Presentation Prize**, *MSc Ecology and Data Science UCL*

2024 **Dean's List (top 5%)**, *MSc Ecology and Data Science UCL*

2024 **Top Graduate Award**, *Master's Operations Management UCH*

2021 **Best Teaching Assistant**, *Industrial Engineering Department UCH*

2023 **Masters Abroad Scholarship**, *Government Funding Agency (ANID)*, (Fully funded)

2022 **Academic Excellence Scholarship**, *Master's Operations Management UCH*

2022 **International Mobility Scholarship**, *Santander Bank*

2018–2021 **Outstanding Student**, *Faculty of Physics and Mathematics UCH*

☐ Software

2025 **fastei (R package)**, Fast implementations to solve the RxC Ecological Inference problem

☐ Dissemination

Talks

2024 **A Fast Ecological Inference Algorithm for the RxC case**, *Bangor, Wales*
Operational Research Society 66

2024 **How many trees are there? An approach using consensus clustering**, *Cardiff, Wales*
British Ecological Society Macroecology

2024 **A novel framework for optimized sensor deployment in biodiv. monit.**, *Surrey, England*
Surrey Wildlife Trust Showcase

Posters

2025 **A Fast Ecological Inference Algorithm for the RxC case**, *Pucón, Chile*
Workshop in Management Science

☐ Development

2023 **XVIII Summer School in Discrete Mathematics**, *Instituto de Sistemas Complejos Valparaíso*
High-chromatic graphs, Provable Algorithms for Data Mining and ML, and Linear Programming

2020 **9th Winter School in Engineering Systems**, *Universidad de Chile*
Black swan in power systems, Stackelberg games in security, AI challenges in big data

☐ Skills

P. Languages	Python, R, SQL, MATLAB
Mach. Learn.	TensorFlow, PyTorch, Keras, Scikit-Learn, Gym
Optimization	Gurobi, OR-Tools, CVXPY, PuLP
Other	Git, LaTeX, HPC

☐ Languages

English	Advanced	*TOEFL iBT 112/120, IELTS 8/9*
Spanish	Native	
French	Elementary	

☐ Miscellaneous

○ Participated in music bands and societies, performing at events and concerts at universities in both Chile and London

○ Earned a Music Production Certificate from Projazz

○ Motivated by rock climbing since 2023