Jaqueline Garcia-Yi, PhD

Senior Environmental Economist | AI & Data Science | Biodiversity & Nature Tech

Lima, Peru | jackiejgarciayi@gmail.com | https://www.linkedin.com/in/jaqueline-garcia-yi/ | https://jackiegarcia-yi.com/

EXECUTIVE PROFILE

Senior environmental economist and Co-Founder of Ecosonus with 20+ years of international experience across the United Nations, academia, environmental economics, biodiversity, and data science. Former UNEP Programme Management Officer responsible for an approximately US$80 million portfolio of 15 projects, with extensive experience leading international programmes, mobilizing resources, and translating economic, ecological, geospatial, and AI-based evidence into policy and investment decisions. Current work focuses on AI-enabled biodiversity monitoring, Nature Tech, responsible AI, climate resilience, and sustainable food systems.

CORE EXPERTISE

Environmental & Climate Economics • Biodiversity & Nature Tech • AI / Data Science • Geospatial Analytics & Remote Sensing • Bioacoustics • Responsible AI & AI Governance • Impact Evaluation & Causal Inference • International Programme Leadership • Resource Mobilization

PROFESSIONAL EXPERIENCE

Co-Founder – Nature Tech & Biodiversity AI

Ecosonus | ***Lima, Peru*** **Jul 2024 – Present**

- Co-founded Ecosonus, a nature-tech initiative incubated at Harvard Innovation Labs, developing AI-powered biodiversity monitoring and environmental intelligence solutions using bioacoustics, remote sensing, geospatial modelling, and ecological data.
- Lead research and product development across biodiversity monitoring, ecosystem services, climate resilience, and nature-based tourism, including AI-assisted bird identification and forest-based disaster-risk reduction applications in Peru.

Recognition & Funding

- Awarded funding from WILDLABS, a global conservation technology network (Jul 2026).
- Second Place, e-Tourism Competition, organized by Incubagraria and MINCETUR, including seed funding (Jul 2026).
- Awarded funding from the British Ecological Society (May 2026).
- Selected as one of 20 startups for the Social Innovation Lab, University of Pennsylvania & University of Oxford (Nov 2025).
- Second Place, 2nd Copernicus Latin America Hackathon, European Union (Aug 2025).
- Selected among leading submissions to the UN AI for Good – EW4All Innovation Challenge and featured in the Solutions Spotlight of the EW4All AI Subgroup (Aug 2025).

Senior Fellow – Responsible AI & AI Governance

fAIr LAC Responsible AI Network | ***Lima, Peru*** **May 2026 – Present**

- Selected as a Senior Fellow supporting responsible AI adoption within the fAIr LAC entrepreneurship ecosystem led by IDB Lab.
- Lead Junior Fellows in responsible AI assessments for startups across sectors, including agri-tech and AI-enabled accounting, covering AI governance, risk assessment, data practices, evaluation, monitoring, and implementation roadmaps.

MBA Lecturer – Ethics, Sustainability & ESG

Universidad de Lima, Graduate School – MBA | ***Lima, Peru*** **Aug 2026 – Present**

- Teach Ethics & Sustainable Development, integrating strategic sustainability, ESG, climate and nature-related risks, biodiversity, corporate reporting, impact assessment, carbon markets, and responsible AI.
- Apply managerial frameworks including double materiality, DIROs, GRI, ISSB/IFRS S1-S2, TNFD, biodiversity metrics, and evidence-based impact evaluation.

Programme Management Officer (P3 International Staff)

United Nations Environment Programme (UNEP) | ***Asunción, Paraguay*** **Jul 2022 – Jun 2024**

- Managed an approximately US$80M portfolio of 15 environmental and climate projects, strengthening programme coherence, impact assessment, and strategic alignment across one of UNEP's largest country portfolios in Latin America.
- Led and supported initiatives on deforestation-free soy and cattle production, climate adaptation with local communities, REDD+, sustainable production, and environmental policy.
- Managed staff and temporarily acted as coordinator of a US$50M Green Climate Fund project.
- Designed an interactive portfolio-monitoring dashboard integrating project data with protected areas, rivers, Indigenous populations, and other geospatial layers using Python, QGIS, Tableau, HTML/CSS, and JavaScript.
- Represented UNEP in UN Country Team processes, government engagement, stakeholder coordination, speeches, and official responses as the highest-ranking UNEP staff member residing in Paraguay.

Research Officer (P3 International Staff)

United Nations Office on Drugs and Crime (UNODC) | ***Vienna, Austria*** **Jul 2015 – Jul 2022**

- Secured approximately US$5M in funding for innovative predictive, spatial, and impact-evaluation research across Afghanistan, Myanmar, Bolivia, Colombia, and Peru.
- Developed spatio-temporal predictive models and strategic maps; applied econometrics, machine learning, random forests, remote sensing, and geospatial analysis to policy and programme decisions.
- Led impact assessments of sustainable development interventions using field surveys, census data, remote sensing, randomized designs, difference-in-differences, matching, and structural models.
- Created monitoring dashboards in QlikView, Tableau, and Python and developed quantitative approaches to estimate beneficiary populations and livelihood outcomes.
- Developed a funded proposal to evaluate biodiversity impacts of illegal mining in the Amazon using AI and acoustic monitoring; contributed to UNODC strategy, donor proposals, CND presentations, and international expert processes.

Statistician (Temporary, P3 International Staff)

United Nations Office on Drugs and Crime (UNODC) | ***Vienna, Austria*** **Aug 2016 – Nov 2016**

- Conducted statistical and remote-sensing analysis for illicit-crop monitoring in Myanmar and Afghanistan and quality control for annual monitoring reports in Colombia, Peru, and Bolivia.
- Introduced spatial-econometric analysis into socio-economic reporting and led survey design and training for field data-collection teams.

Research Associate / Postdoctoral Researcher – Food & Environmental Economics

Technical University of Munich | ***Freising, Germany*** **Aug 2012 – Jun 2015**

- Led the socio-economic component of an EU-funded international project on the impacts of genetically modified crops; supervised research assistants, Master's theses, and interns.
- Conducted meta-analysis and systematic evidence synthesis on food security, farmers, consumers, supply chains, coexistence regulation, and environmental-economic impacts; taught Master's-level economics.

Research Associate / Postdoctoral Researcher – Food & Environmental Economics

Leibniz University Hannover | ***Hannover, Germany*** **Apr 2010 – Jul 2012**

- Led international research on value chains and market incentives for conservation of native crops in Peru and Bolivia, funded by GIZ.
- Designed field research and behavioural-economics studies using choice experiments, experimental auctions, and advanced econometric models; supervised consultants and students and published seven peer-reviewed articles.

Doctoral Researcher – Environmental & Behavioural Economics

University of Bonn / Center for Development Research | ***Bonn, Germany*** **Aug 2005 – Apr 2010**

- Conducted DAAD-funded doctoral research on behavioural economics, environmental and socio-economic drivers of illicit-crop cultivation, and impact evaluation of anti-drug policies in the Peruvian Amazon.
- Received a LACEEP research grant, presented internationally, and published five peer-reviewed articles; one later received an Emerald Literati Outstanding Paper Award.

Earlier experience in Peru: University Lecturer in Environmental Education (UNMSM) and Food & Environment Specialist in private consultancies and public-sector natural-resource management.

EDUCATION & SPECIALIZED TRAINING

DATA SCIENCE & BIOACOUSTICS

Master in Data Science

Harvard University Extension School | ***Massachusetts, USA*** **Sep 2019 – Dec 2025**

- Online & in-person, part-time; Dean's List for Academic Achievement.
- Final capstone project on biodiversity hotspots integrating satellite imagery, eDNA, and acoustic data; sponsored by NASA.

Postgraduate Certificate in Bioacoustics (Bioacoustics Winter School)

Jean Monnet University | ***Saint-Étienne, France*** **Jan 2026**

- In-person, full-time intensive international programme integrated into the Master's in Acoustics.

ECONOMICS, ECOLOGY & MANAGEMENT

Doctor of Economics

University of Hannover | ***Hannover, Germany*** **Aug 2005 – Sep 2010**

- DAAD Scholarship; doctoral research in environmental and behavioural economics.

Master of Science in Ecology and Environmental Science
University of Maine | ***Maine, USA*** **Aug 2002 – Dec 2004**
- Fulbright Scholarship.

Executive Master in Management of International Organizations
SDA Bocconi | ***Milan, Italy*** **Oct 2018 – May 2019**
- Part-time, online and in-person executive programme.

Food Technology and Engineering Undergraduate Degree
Universidad Nacional Agraria La Molina (UNALM) | ***Lima, Peru*** **Apr 1993 – Dec 1997**
- Honor Roll.

Additional graduate/executive training: Professional Graduate-Level Certificate in Data Science, Harvard University Extension School (2020–2024); Professional Graduate-Level Certificate in Data Analytics, Harvard University Extension School (2019–2023); Professional Graduate-Level Certificate in Business Communications, Harvard University Extension School (2021–2024); UN Secretariat Executive Management Program, UN System Staff College (2023); Executive Program in Management of the Environment, Maastricht School of Management (2004, NUFFIC Scholarship); PhD Course in Environmental Valuation, University of Gothenburg (2009, SIDA Scholarship).

TECHNICAL & ANALYTICAL EXPERTISE

AI & Data Science: Python, machine learning, deep learning, NLP/LLMs, predictive modelling, time-series forecasting, causal inference, econometrics, Bayesian methods.
Geospatial & Biodiversity: QGIS, ArcGIS, GeoDa, Google Earth Engine, remote sensing, satellite imagery, species-distribution modelling, bioacoustics, ecological monitoring.
Data & Visualization: Tableau, Power BI, Qlik, SQL, data pipelines, HTML/CSS/JavaScript, interactive dashboards, data-quality and reporting workflows.
Responsible AI: AI governance, risk assessment, data governance, bias, explainability, human oversight, monitoring, and responsible-AI implementation roadmaps.
Programme Leadership: International programme management, resource mobilization, impact evaluation, government relations, multidisciplinary teams, donor engagement, and strategic communication.

SELECTED PUBLICATIONS & UN OUTPUTS

- Garcia-Yi, J. (2017). “Building resilience to opium poppy cultivation by strengthening the design of alternative development interventions: evidence from Afghanistan.” United Nations Bulletin on Narcotics.
- Garcia-Yi, J. (2015). “Drugs and protected areas: coca cultivation and social acceptance of Bahuaja-Sonene National Park in Peru.” Sustainability 7(6), 7806–7832.
- Garcia-Yi, J. (2015). “Willingness to pay for organic and Fairtrade certified yellow chili peppers: evidence from middle and high income districts in Lima, Peru.” British Food Journal 117(2), 929–942.
- Garcia-Yi, J. et al. (2014). “What are the socio-economic impacts of genetically modified crops worldwide? A systematic map protocol.” Environmental Evidence 3(24).
- Garcia-Yi, J. (2014). “Heterogeneous farmers’ motivations for growing coca: the case of an Aymara indigenous community in Peru.” International Journal of Drug Policy 25(6), 1113–1123.
- Garcia-Yi, J. (2014). “Market participation and agro-biodiversity loss: the case of native chili varieties in the Amazon rainforest of Peru.” Sustainability 6, 615–630.

Selected UN publications: Under Which Conditions Does Alternative Development Create Sustainable Income and Livelihoods for Farmers? (UNODC, 2023); Global Overview of Alternative Development Projects (UNODC, 2019); contributor to the World Drug Report (2015–2022).

SELECTED AWARDS, FELLOWSHIPS & LANGUAGES

Awards & Fellowships: Emerald Literati Outstanding Paper Award (2015); SIDA Scholarship (2009); LACEEP Research Grant (2007); DAAD Scholarship (2005–2010); NUFFIC Scholarship (2004); Fulbright Scholarship (2002–2004); BMUB Scholarship (2001); AECI Scholarship (1998).

Languages: Spanish (native) | English (advanced) | German (intermediate)