Luciano Silva Alarco

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Academic profile and doctoral research interests

What information must a model preserve to support reliable inference and decisions under uncertainty?

Research in statistical learning, optimization and trustworthy AI connects formal analysis, computational evaluation and operational decisions. Doctoral interests focus on the mathematical and statistical foundations of reliable learning and decision-making.

Selected research

Identification with incomplete data

Joint observation structure distinguishes equal-cost designs that pairwise coverage cannot separate.

Formal identifiability analysis
Manuscript submitted · Editorial decision pending

Sufficient information for certification

An exact geometric reduction supports the study of certification for a fixed equilibrium candidate; strategies are compared on 540 verified instances.

Geometric reduction and computational comparison
Manuscript submitted · Editorial decision pending

Attributing a model’s contribution

Equivalent controls separate structure, information and implementation effects in higher-order representations.

Structural controls and experimental reassessment
In development · Methodological and experimental reassessment

Published work

Better Efficiency on Non-performing Loans Debt Recovery and Portfolio Valuation Using Machine Learning Techniques

Jose Tupayachi and Luciano Silva.Production and Operations Management. Vol. 391, pp. 33–53. 2022. DOI: 10.1007/978-3-031-06862-1_3

Urban Road Network Resilience Assessment on Freight Logistics by Simulating Disruptive Events

Leonardo Flores-González, Jorge Vargas Florez, Lorena Monteza-Valdivia, Alexia Cáceres-Cansaya, Javier García-Salinas and Luciano Silva-Alarco.Production and Operations Management. Vol. 391, pp. 427–450. 2022. DOI: 10.1007/978-3-031-06862-1_32

Teaching, preparation and academic contribution

Teaching and research training

Undergraduate and graduate teaching, thesis seminars, professional qualification workshops and continuing education connect quantitative methods, project development and organizational problems. The historical record includes SAP Business One training and programs for Mechatronics Engineering.

Analytics and decisions. Data mining, artificial intelligence and process analysis connect quantitative methods with engineering and management problems.

Research training. Project courses, thesis seminars and professional qualification workshops connect the formulation of questions, methodological choices and communication of findings.

Systems, innovation and knowledge transfer. Teaching in information technology, innovation, mechatronics and SAP Business One spans university and professional education.

Full teaching record: courses, seminars and workshops

Education and credentials

Master’s degree inIndustrial Engineering · PUCP · 2015

Ranked first among 30 graduates; weighted average of 18/20 in the graduation semester. Thesis unanimously approved with the distinction “Sobresaliente”.

IndustrialEngineer · PUCP · 2008

Professional degree thesis unanimously approved with the distinction “Sobresaliente”.

Supply ChainManagement · MITx · 2022

MicroMasters program credential earned in 2022.

Statistics andData Science · MITx · Education

MicroMasters coursework completed. Capstone examination pending for the program credential.

Project ManagementProfessional · PMI

PMP certification · Project Management Institute.

Academic and professional contribution

Coordinator of the Innovation Management Area and member of the Steering Committee for the master’s program in Innovation and Technology Management and Policy at PUCP. More than fifteen years leading ERP implementation projects, specializing in SAP Business One, bring experience with data quality, operational constraints and decision-support systems.

Doctoral opportunities and collaboration

Interest in groups working on statistical machine learning, information geometry, optimization, trustworthy AI and decision science. Contact: lsilva@pucp.edu.pe

Research portfolio with findings, scope and status
Institutional profile · PUCP