Xuefei LU

Associate Professor

Academy: Digitalization

Research center: SKEMA Centre for Analytics and Operations

Campus: Paris

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Research interests

Statistical Machine Learning Uncertainty Quantification Big Data Problems Bayesian Non-Parametrics, Uncertainty Quantification, Operations Research, Artificial Intelligence

Education

2019	Ph.D. in Statistics, Bocconi University, Italy
2013	MSc in Analytics: Operational Research and Risk Analysis, The University of Manchester, Great Britain

Experience

Full-time academic positions

Since 2025	Associate Professor, SKEMA Business School, France
Since 2021	Assistant Professor, SKEMA Business School, France
2020 - 2021	Assistant Professor, Management Science and Business Economics Group, University of Edinburgh Business School, Great Britain
2018 - 2020	Postdoctoral researcher, Politecnico di Milano, Italy

Research grants, Awards and Honors

Awards and Honors

2024	2024 INFORMS Data Mining Best Paper Awards (Runner-Up), Institute for Operations Research and the Management Sciences (INFORMS), United States of America
2024	European Journal of Operational Research 2024 Editors' awards for excellence in reviewing, European Journal of Operational Research (EJOR)
2024	Clemen-Kleinmuntz Decision Analysis Best Paper Award, Institute for Operations Research and the Management Sciences (INFORMS), United States of America
2023	European Journal of Operational Research 2023 Editors' awards for excellence in reviewing, European Journal of Operational Research (EJOR)
2020	European Journal of Operational Research 2020 Editors' awards for excellence in reviewingEuropean Journal of Operational Research 2020 Editors' awards for excellence in reviewing, European Journal of Operational Research (EJOR)

Publications

Peer-reviewed journal articles

LU, X. and BORGONOVO, E. (2026). How do I explain that decision? A new approach combining counterfactuals and sensitivity analyses. *European Journal of Operational Research*, 334(1), pp. 200-215.

FLOREALE, G., BARALDI, P., LU, X., ROSSETTI, P. and ZIO, E. (2024). Sensitivity Analysis by Differential Importance Measure for Unsupervised Fault Diagnostics. *Reliability Engineering and System Safety*, 243, pp. 109846.

LU, X. and BORGONOVO, E. (2023). Global Sensitivity Analysis in Epidemiological Modeling. *European Journal of Operational Research*, 304(1), pp. 9-24.

LU, X., BORGONOVO, E. and RABITTI, G. (2023). Sensitivity Analysis of Pandemic Models Can Support Effective Policy Decisions. *Journal of Computational and Graphical Statistics*, 32(3), pp. 767-768.

HAZEN, G., BORGONOVO, E. and LU, X. (2023). Information Density in Decision Analysis. *Decision Analysis*, 20(2), pp. 85-185-C2.

LU, X. and CALABRESE, R. (2023). The Cohort Shapley value to measure fairness in financing small and medium enterprises in the UK. *Finance Research Letters*, 58(Part C), pp. 104542.

LU, X., XU, M., BARALDI, P. and ZIO, E. (2022). Generative Adversarial Networks With AdaBoost Ensemble Learning for Anomaly Detection in High-Speed Train Automatic Doors. *IEEE Transactions on Intelligent Transportation Systems*, 23(12), pp. 23408-23421.

CERVI, E., LU, X., CAMMI, A., DI MAIO, F. and ZIO, E. (2022). Sensitivity-Analysis-Driven Surrogate Model for Molten Salt Reactors Control. *Journal of Nuclear Engineering*, 3(4), pp. 277 - 294.

LU, X., BARALDI, P. and ZIO, E. (2020). A Data-Driven Framework for Identifying Important Components in Complex Systems. *Reliability Engineering and System Safety*, 204(107197), pp. 107197.

LU, X., RUDI, A., BORGONOVO, E. and ROSASCO, L. (2020). Faster Kriging: Facing High-Dimensional Simulators. *Operations Research*, 68(1), pp. 233-249.

ANTONIANO-VILLABOS, I., BORGONOVO, E. and LU, X. (2020). Nonparametric estimation of probabilistic sensitivity measures. *Statistics and Computing*, 30, pp. 447-467.

BORGONOVO, E., LU, X., PLISCHKE, E. and RAKOVEC, O. (2017). Making the Most Out of a Hydrological Model Data Set: Sensitivity Analyses to Open the Model Black-Box. *Water Resources Research*, 53(9), pp. 7933-7950.

Conference proceedings

LU, X., ANTONELLO, F., BARALDI, P. and ZIO, E. (2019). Data-Driven Identification of Critical Components in Complex Technical Infrastructures Using Bayesian Additive Regression Trees., Proceedings of the 29th European Safety and Reliability Conference, pp. 1-5.

Conference presentations

LU, X. and BORGONOVO, E. (2025). Combining Counterfactuals and Sensitivity Analysis: A New Approach to Explaining Black-Box Models. In: 11th International Conference on Sensitivity Analysis of Model Output. Grenoble.

LU, X. (2025). Enhancing Transparency in Black-Box Models: An Explainability Approach Using Sensitivity Analysis and Counterfactual Insights. Milan.

LU, X., BORGONOVO, E., RUDIN, C. and PLISCHKE, E. (2025). Explaining Explainations. In: 2025 INFORMS Annual Meeting. Atlanta.

LU, X. and BORGONOVO, E. (2024). Unveiling the Path to Desired Predictions: An Interpretability Approach for Black-Box Models. In: 2024 SIAM Conference on Uncertainty Quantification. Trieste.

LU, X. and BORGONOVO, E. (2023). What Can a Person Change to Obtain a Desired Prediction? An Interpretability Approach. In: 2023 INFORMS Annual Meeting. Phoenix.

LU, X., BORGONOVO, E. and HAZEN, G. (2021). Information Density in Simulation Experiments. In: INFORMS Annual Meeting. Anaheim.

LU, X. (2019). Data-Driven Identification of Critical Components in Complex Technical Infrastructures Using Bayesian Additive Regression Trees. In: The annual European Safety and Reliability Conference (ESREL). Hannover.

Faculty research seminar presentations

LU, X. (2024). Unveiling the Path to Desired Predictions: An Explainable Approach for Black-Box Models. In: Statistics Seminars at Department of Decision Sciences, Bocconi University. Milan.

Other research activities

Editorial board member

Since 2026	European Journal of Operational Research

Affiliations

Since 2023	Council member of INFORMS Decision Analysis Society

PhD supervision

Since 2023	K. SAHATOVA, SKEMA Business School, PhD thesis, Thesis co-director
Since 2021	Z. OUYANG, University of Edinburgh Business School, PhD thesis, Thesis co-director
2023	M. BUDZINSKI, Bocconi University, PhD thesis, Thesis Reviewer

Other academic activities

Since 2026	Scientific Committee Member of Sensitivity Analysis of Model Output (SAMO)