

CALL FOR PAPERS

The availability of large databases and significant improvements in computational power has been key determinants in the explosive increase of interest in machine learning. In this sense, machine-learning methods, such as neural networks and genetic algorithms, have been used as methodological tools to understand how complex adaptive systems behave and to integrate many streams of unstructured and structured data. Economics and finance, on the flipside, have experienced an increasing interest in microlevel analysis, but with the empirical methodologies restricted to mostly linear methods brought by traditional econometric methods.

This cross-discipline special issue aims at integrating conceptual methodologies of the machine-learning domain with empirical issues that are found in Economics and Finance. There is a large room for exploration at the intersection of these two areas. Machine learning goes beyond of regression methods and can be used as a variety of ways. Thus, it can give new insights to how economics and finance data are organized. The application of these methods may contribute to the debate on assessing, monitoring and forecasting economic and financial variables is quite relevant.

We welcome new insights, models, and applications in a wide variety of topics that bridge topics in machine learning to complex economics and finance network. The application and adaptation of unsupervised learning methods, such as data and community clustering, ranking, anomaly detection, and semisupervised and supervised learning techniques, such as classification and regression, applied to finance and economics, are of great interest. We are also looking for methods that ally high-frequency data, such as those arising from social network, with traditional machine learning and econometrics to forecast or describe economic and financial variables from new perspectives. There are many gaps in the literature and we hope to address some of them within this call for papers. We look for papers that contribute to the debate on the use of machine learning in complex economics and finance network.

There are many gaps in the literature and we hope to address some of them within this call for papers. We look for papers that contribute to the debate on the use of machine learning in economics and finance.

Potential topics include but are not limited to the following:

- ▶ Machine learning and applications in complex economics and finance network
- ▶ Deep learning and applications in complex economics and finance network
- ▶ Complex financial stability issues discussed using machine learning methods
- ▶ Systemic risk measurement using new complex models
- ▶ Network prediction using new techniques
- ▶ Interdependent networks and its implications
- ▶ Discussing cross-system risk, default contagion, network topology, endogenous financial networks, network resilience, Bayesian dynamic financial networks using new models and insights
- ▶ Complexity and financial regulation
- ▶ Multiplex networks and link prediction—applications in economics and finance
- ▶ Interbank connections, systemic relevance, and bank supervision using new chaotic models and insights
- ▶ Econometrics of complex networks
- ▶ Agent-based modelling for complex economics and finance network
- ▶ Genetic algorithms in financial network
- ▶ Cellular automata with machine learning in financial network
- ▶ Neural networks in financial regulation
- ▶ Machine learning based on evolutionary game theory in finance

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/complexity/amlef/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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