CALL FOR PAPERS

Special issue on “Large-scale and Generative AI for Economic and Business Forecasting: Modeling, Technologies, and Applications”

Introduction

The rapid evolution of large-scale artificial intelligence (AI) and the disruptive emergence of generative AI (GenAI) are fundamentally reshaping the landscape of economic and business forecasting. These technologies offer unparalleled capabilities to process vast and heterogeneous datasets, model complex nonlinear relationships, and generate synthetic data and plausible future scenarios. This paradigm shift holds the potential to enhance the accuracy, timeliness, and interpretability of predictions across diverse domains, ranging from macroeconomic nowcasting to highly granular demand forecasting.

This special issue aims to provide a premier platform for disseminating cutting-edge research on the integration of large-scale AI (e.g., deep learning, foundation models) and GenAI (e.g., Large Language Models (LLMs), Generative Adversarial Networks (GANs), and diffusion models) into predictive analytics for economics and business. We invite submissions addressing theoretical developments, methodological innovations, and practical applications that tackle longstanding challenges and uncover new opportunities for advancing forecasting practice.

Topics of Interest

We invite original research and review articles that contribute to the advancement of this field. Topics of interest include, but are not limited to:

- **Advanced Modeling Techniques:** Novel architectures and algorithms leveraging foundational models, transformers, LLMs, GANs, and other generative techniques for time-series forecasting and nowcasting.
- **Multi-Agent Simulation Systems:** Agent-based modeling (ABM) simulating market dynamics, consumer behavior, supply chain interactions, and their use for predictive purposes.
- **Integration of Multimodal Data:** Leveraging LLMs to analyze and integrate multimodal data (e.g., text, image, sound, video) with traditional structured data for enhanced prediction accuracy.
- **Causal Inference and Explainability:** Techniques for causal discovery, reasoning, and generating interpretable forecasts within LLM and agent-based frameworks.
- **Causal Inference and Explainable AI (XAI):** Developing methods for causal discovery, reasoning, and generating interpretable forecasts within large-scale and generative AI frameworks.
- **Decision Optimization:** Building end-to-end systems where AI models not only predict outcomes but also generate actionable insights, recommendations, and automated decisions for optimal business decisions (e.g., in pricing, inventory management, and investment).
- **Addressing Forecasting Challenges:** Applications tackling key issues like demand forecasting, financial market prediction, macroeconomic indicator forecasting, and risk assessment.

- **Robustness and Ethics:** Studies on the robustness, bias, fairness, and ethical implications of using large-scale AI models in sensitive economic forecasting.
- **Human-AI Collaboration:** Frameworks for effective collaboration between human experts and AI agents in the forecasting pipeline.

Important Dates

- **Submission Deadline:** June 30, 2026
- **First Round of Reviews:** October 30, 2026
- **Revised Manuscripts Due:** December 31, 2027
- **Final Decision:** January 31, 2027
- **Publication Date:** Q2 2027

Submission Guidelines

Authors should prepare their manuscripts according to the submission guidelines of the IEEE Transactions on Computational Social Systems. Manuscripts should be submitted through the online submission system at: https://ieee.atyponrex.com/journal/tcss, and select “Special Issue” of “Large-scale and Generative AI for Economic and Business Forecasting: Modeling, Technologies, and Applications” under the Manuscript Category. All submissions will undergo a rigorous, single-blind peer-review process.

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