

INFORMS Journal on Data Science Call for Papers Second Virtual Special Issue on GenAI and LLM

Virtual Special Issue Guest Editors: Ningyuan Chen,^a Xiuyuan Cheng,^b Grigorios Chrysos,^c Xiaocheng Li,^d Yao Xie,^e Ruihao Zhu^f

^a Rotman School of Management, University of Toronto, Toronto, Ontario, Canada;

^b Department of Mathematics, Duke University, Durham, North Carolina;

^c Department of Electrical and Computer Engineering, University of Wisconsin–Madison, Madison, Wisconsin;

^d Uber Technologies, San Francisco, California;

^e H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, Georgia;

^f SC Johnson College of Business, Cornell University, Ithaca, New York.

The rapid advancement of generative AI (GenAI) and large language models (LLMs) has ushered in a new era of data science, fundamentally transforming how organizations and individuals approach problem-solving and analytics. These tools can significantly enhance the capabilities of organizations and individuals in decision-making, problem-solving, and analytics. These technologies are not only pushing the boundaries of what is possible in data science but also presenting remarkable opportunities and significant research challenges for the INFORMS community. Following the success of the first IJDS special issue on the same topic, this special editorial team is launching a second special issue to keep exploring the transformative potential of GenAI and LLMs across a few key areas.

1. Innovative applications in data science. GenAI can be a powerful tool in the field of data science. It has the potential to revolutionize various stages in the data pipeline, from data acquisition to data analysis to data-driven decision-making. We encourage novel applications of GenAI and LLMs to these areas, especially the emerging workflows involving AI agents.

2. Understanding of GenAI, LLMs, and deep learning applied to a practical context. As an emerging research subject, the understanding of the effectiveness of these technologies in specific applications relevant to the INFORMS community is rather limited. We encourage novel methodologies and well-designed experiments to provide deeper insights into their performance, limitations, and potential for transformative impact across various domains.

3. Analyzing engineering techniques and operations in the AI ecosystem. There are numerous engineering techniques adopted in various stages of LLM and GenAI models, including pre-training, post-training, inference, test-time compute, and agentic workflows. The deployment of AI also involves operational decisions such as computation resource allocation, pricing, and data center facility locations. They call for rigorous and data-driven investigations.

4. Societal impact and policy implications. We seek contributions that rigorously evaluate and forecast the industry and societal impacts of these technologies, including potential risks and benefits. Empirical investigations and experimental studies can help draw policy recommendations in areas that involve human-AI collaboration, algorithmic decision-making, and automation.

We encourage submissions that are interdisciplinary and draw on a wide range of methodologies, including empirical, theoretical, computational, and experimental approaches. Studies from business, engineering, computer science, statistics, and social sciences are all welcome.

Submission

To be considered for the virtual special issue, submit your manuscript online via <https://mc.manuscriptcentral.com/ijds>. Select “Second Virtual Special Issue on GenAI and LLM” as the manuscript type in Step 1. Manuscripts will be assigned to one of the guest editors for this issue.

The virtual special issue aims to provide timely outlets for innovative, cutting-edge research on the aforementioned topics and beyond. A paper submitted to the virtual special issue will be processed right away, and accepted papers will be published in regular issues without delay. As such, authors are encouraged to submit as soon as they are ready. This virtual special issue will be an online collection of all these articles tied together under a unifying editorial article for greater impact and outreach.

Important Timelines

- Submission deadline March 1, 2027. Manuscripts will be reviewed as they are received.
- First round of decisions by June 1, 2027.
- Subsequent timeline depends on revision time with authors, but guest editors are committed to finishing revision review within 60 days.
- Maximum of two rounds of revisions (three decisions total).