

US National Academy of Engineering (NAE) Innovations in Electric Power and Energy Systems (enPower) Webinar Series

Generative AI for Grid Operations

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To Register: The webinar is free but registration is required. To register use this link: [Register](#)

Abstract: In the last few years, the development and use of generative artificial intelligence (AI) and large-language models (LLMs) have changed the landscape of how AI and machine learning (ML) are being used in power systems. LLMs are built on foundational models based on large data sets that can be trained to provide information rapidly and through simple natural language prompts. Generative AI can then perform human-like tasks using ML models to identify and mimic patterns in the data sets. This presentation explores how generative AI can enhance grid operations by improving forecasts, enabling rapid contingency analyses, and offering real-time operational suggestions. By providing grid operators with valuable insights, generative AI will empower them to manage power systems more effectively.

Biography: Dr. Ben Kroposki is the Director of the Power Systems Engineering Center at that NREL. He leads NREL's strategic research in the design, planning, and operations of electrical power systems. As center director, he manages engineers and scientists conducting research on power system devices and systems, sensing, measurement, and forecasting, operations and control, and power system design and planning. This work covers bulk power systems, distribution systems, and microgrids. Dr. Kroposki serves as co-chair for the U.S. Department of Energy's Grid Modernization Laboratory Consortium, a partnership of 14 national laboratories to advance the modernization of the U.S. power grid. He also is the organizational director of the UNIFI Consortium that focuses on integrating power electronic-based technologies into electric power systems. He has over 30 years of experience in the design, testing, and integration of advanced power solutions and systems.



About the NAE Innovations in Electric Power and Energy Systems (enPower) Webinar Series:

The mission of the NAE is to advance the well-being of the nation by promoting a vibrant engineering profession and by marshalling the expertise and insights of eminent engineers to provide independent advice to the federal government on matters involving engineering and technology. To help achieve this, the NAE encourages its sections to develop Member Led Activities (MLEs). The enPower monthly webinar series is a MLE from NAE Section 6 (Electric Power/Energy Systems) to highlight the many new innovations taking place associated with electric power and energy systems area.