

**Title**

Integrating Machine Learning and Generative AI into Simulation Data Management (SCALE.sdm)

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**Abstract**

Generative AI is widely regarded as a transformative force across industries, and it is already boosting efficiency in areas like software development. One key trend involves integrating AI tools directly into developers' environments, enabling seamless collaboration with these systems. As a provider of a Simulation Data Management platform, which essentially functions as an IDE for simulation engineers, we are exploring how to embed machine learning and generative AI capabilities into simulation engineering workflows. Our vision is not to replace simulation engineers, but to empower them with next-generation, AI-driven tools that automate tedious tasks and free them to focus on core engineering challenges.

In this presentation, we demonstrate integrated AI capabilities within our SDM platform. These include automated generation of change documentation, chatbot-based search through simulation data, AI assistance embedded in simulation pre-processing tools (e.g., text editors), and machine learning-driven analysis of the vast simulation results it manages. Together, these capabilities showcase how deeply integrated AI can elevate simulation data management to new levels of efficiency and intelligence.