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Generative AI is transforming education and research, including astrophysics. Machine learning has become a powerful tool for extracting physical information from large-scale data, emulating computationally expensive simulations, and accelerating discovery in both observational and theoretical studies. More recently, large language models are opening new possibilities for scientific workflows, from literature review to hypothesis generation. In this talk, I will review successful applications of machine learning in astrophysics and discuss the growing role of generative AI in shaping future research and education.