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Abstract for an Invited Paper for the APR20 Meeting of the American Physical Society

## Machine Learning in Particle Physics

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In my talk, I will discuss the application of state-of-the-art data science methods, such as modern deep learning networks, in particle physics. In particular, I will highlight applications to new physics searches, detector reconstruction, particle identification and real-time event filtering. I will conclude by presenting significant new opportunities in the field of particle physics enabled by data science.