

The impact of deep learning for galaxy surveys

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The amount and complexity of data delivered by modern galaxy surveys has been steadily increasing over the past years. Extracting coherent scientific information from these large and multi-modal data sets remains an open issue and data driven approaches such as deep learning have rapidly emerged as a potentially powerful solution to some long lasting challenges. This enthusiasm is reflected in an unprecedented exponential growth of publications using neural networks. In this review talks, we will first summarize the main applications of deep learning for galaxy formation that have emerged so far. We will then extract the major achievements and lessons learned and highlight key open questions and limitations.