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Machine learning at the nexus of EoS and astrophysics

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In this review, we seek to synthesize the current literature in terms of works that harness machine learning for the understanding of the nuclear EoS in astrophysics. Furthermore, we propose future areas of work at this exciting interdisciplinary nexus. Model types and approaches include regression, clustering, decision trees, ensemble models, and neural networks (computer vision). There are, however, many challenges in this area, including the gathering of large quantities of data for training, in addition to the interpretability of models. We seek to call for more astrophysicists to incorporate machine learning techniques in their work, for they can yield results that would be impossible to obtain using conventional methods.

Auteur principal: Dr CHEN, Thomas (Association for Computing Machinery, USA)

Orateur: Dr CHEN, Thomas (Association for Computing Machinery, USA)

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