A Focused Section on Deep Neural Network Machine Learning for Scientific Computing

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This focused section, edited by Wei Cai, Weinan E, Jan Hesthaven, Dongbin Xiu and Le-xing Ying, presents several recent developments in improving deep neural networks (DNNs) for scientific computing and classification applications. Original research works on DNNs are included on the following topics: drop-activations as regularization, non-intrusive corrections for classifier, complexity of finding sparse representations for high dimensional functions, and discovery of phase field models for multiphase material studies.

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