

Title: Machine Learning for the Materials World

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Abstract

The last few years have witnessed a surge of activity in machine learning approaches applied to materials science. In this talk I will address both the promise and the limitations of using data science ideas to explore the possibilities of “materials by design”, drawing on examples from recent research in our group. Applications of our work focus on exploring the properties of new materials for energy related problems, including improved batteries, photovoltaics, and new catalysts; in a parallel but distinct type of approach, we have been exploring how machine learning approaches can shed light into fundamental questions like the strength of amorphous solids.