Abstract Submitted
for the TSF16 Meeting of
The American Physical Society

Discovering materials using machine learning[1] CHANDRAMOULI
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Brigham Young University — Material scientists have developed huge experimental
databases of known materials over the last century. Here at BYU we have built a
large database of alloy simulations. The challenge now is to develop data−driven
methods for designing and discovering new materials. Using such data driven
paradigms and extracting the relevant information necessary from the data in a sys-
tematic way can be accomplished through an approach known as "machine learning".
Machine learning is a subfield of artificial intelligence pertaining to the creation of
models that can effectively interpolate from a few known data points. In this talk, I
will present a simple understanding of a machine learning model called "scattering
transforms" and its usage in discovering new materials. The scattering transform
model gives a computer the ability to learn about materials with several elements
without being programmed explicitly. This model offers the potential of high accu-
racy at the speed of machine learning thus accelerating materials discovery.

[2]Please put my talk after Dr. Gus Hart's talk in the same session. Thank You.

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Date submitted: 22 Sep 2016   Electronic form version 1.4