Material Advantage

Meeting: 3/5/2021

Meeting time: [11:00 – 11:30] am

Key Notes:

* Irmak Sargin presented some of the research she does
* Materials Informatics
  + What and Why?
    - Field of study that applies the principles of informatics to materials science and engineering to better understand the use, selection, development, and discovery of materials
    - Machine learning to predict high-dimensional data
    - What do we need, better materials, and we needed it yesterday
    - Supervised Learning
      * Classification and Regression
    - Unsupervised Learning
      * Dimensionality Reduction and Clustering
  + Challenges
    - Datatype: Heterogeneous, extensive custom engineering required
    - Data volume: Small
    - Domain Knowledge: Physics, thermo, kinetics
    - Interpretability: Required
    - Uncertainty quantification: Required
    - Goal: Extrapolating the model beyond the data set for materials discovery