Jiacheng Wang
32760549
jiachengwang@umass.edu

Final Project
CICS 197R - Intro to Data Analysis in R

2022-03-25

Analysis of Li-ion batteries

The origins of the data

The data set was download from Kaggle, analysis-of-li-ion-batteries. This dataset contains data about the physical and chemical properties of the Li-ion silicate cathodes. These properties can be useful to predict the class of a Li-ion battery. These batteries can be classified on the basis of their crystal system. Three major classes of crystal system include: monoclinic, orthorhombic and triclinic.

The goals of the analysis

1. Load and clean the lithium batteries data
2. Build linear regression model for volume and nsites
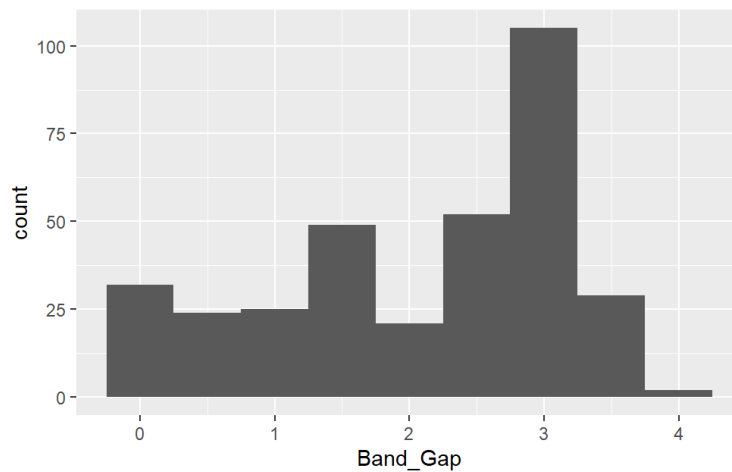3. Analysis the density property with different crystal classes
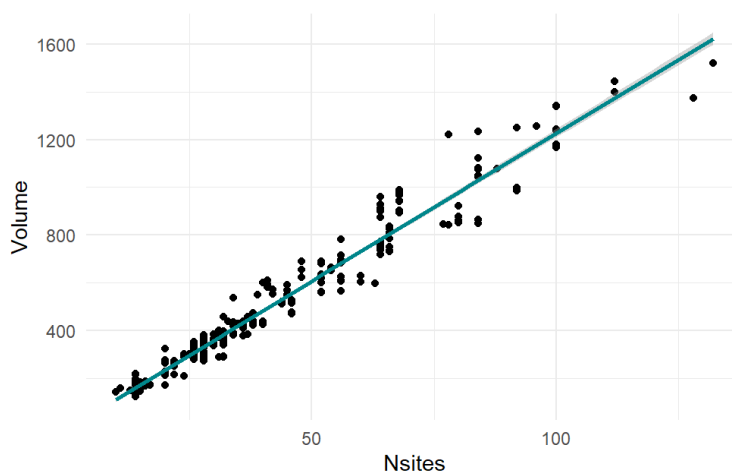

Figure 1: Band gap data distribution

Figure 2: Linear regression fit for Volume by Nsite