Jon Organ

CS677

Assignment 4

**Chipotle Average Return versus Volatility Year 1**

**A graph with red and green dots

Description automatically generated**

**Chipotle Average Return versus Volatility Year 2**

**A graph with red and green dots

Description automatically generated**

**Spy Average Return versus Volatility Year 1**

**A graph with red and green dots

Description automatically generated**

**Spy Average Return versus Volatility Year 2**

**A graph with red and green dots

Description automatically generated**

**Questions:**

1. The one obvious pattern emerging in both years and both stocks is that green weeks have a higher average return than red weeks in general. Volatility’s only affect is higher volatility makes for larger possible average return values, whether positive or negative.
2. For all years and stocks, points are generally close to each other, at least in terms of average return. There’s a larger spread in volatility. For both stock’s year 1 there seems to be more of an overlap in the groups, whereas year 2 was more neatly separated.
3. The pattern of dividing the groups of color around the “average return = 0” mark becomes more defined from years 1 to 2 for both stocks.
4. A nearest-neighbor classifier trained by year 1 would do okay with year 2 predictions. Some areas are more solid in terms of the pattern carrying over from year 1 to 2 whereas the previously mentioned overlap in the groups may cause some issues, as year 2 ended up being more consolidated.