

The main focus of my research is mathematical analysis of social networks. Social networks can be represented mathematically using graphs with nodes representing people and connecting edges representing relationships of different types. There are patterns that can be seen within these social network graphs that indicate how productive and efficient that network is for its purpose. Social network analysis can also use patterns to identify key members of a network. For my research, I will read about the potential uses of social network analysis, and I will become proficient in the use of the softwares UCINet and Netdraw.

As a second component to my research this summer, I will learn about climate modeling. The Earth's climate is influenced by countless variables, but there are some softwares that simplify the factors that contribute to climate change, using knowledge of physics, in order to predict the effects of certain global changes on the global climate. One such software is EDGCM, which I will use to experimentally model how different changes in the atmospheric make-up will change the overall global climate.