As a Computer Science and Engineering undergrad at UNR, I plan on completing my bachelor's degree in Spring 2022, and am considering pursuing a graduate degree in astrophysics.

In the future, I aspire to work at NASA full time, specifically in the Astrophysics Research Division. Astronomers collect vast amounts of information from telescopes and NASA missions, which needs to be processed. I would like to be able to use my background in computer science to process and analyze the data collected, as well as provide scientific meaning.

My project this semester is related to what I would like to do full time after graduation. I am investigating the use of unsupervised machine learning to classify the morphologies of merging galaxies using the K-means clustering algorithm. The purpose of this project is to understand how a machine learning algorithm classifies merging galaxies, as opposed to volunteers who classify merging galaxies visually. If successful, this project could significantly reduce the time needed to classify merging galaxies. Supervised machine learning requires that the data be classified beforehand in order to train a model; unsupervised machine learning does not need data to be classified beforehand. I am grateful to be given the opportunity to have my research funded and to share my results in April.