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Journal #2

This past week, my primary focus has been on testing the viability of my vehicle crash prediction project idea. Specifically, I have developed a rudimentary machine learning model to predict the next frame of a car crash video. I did this by employing a Convolutional Neural Network (CNN) in order to learn the characteristics between a given frame and its subsequent frame. Although I have not had much success with this approach, after reading many research papers about video extrapolation, I have found many new avenues for this project such as using Recurrent Neural Networks (RNNs) and Optical Flow from the Computer Vision python package. In the coming weeks, I hope to use these methods to create a better algorithm of predicting frames in a video.

I have also made progress in exploring some of the suggestions you gave me last week. Firstly, you instructed me to find useful applications for my caption to image project idea. The most relevant applications I found from my research this week were smart video editing, professional training through example generation, and accessibility for people who are unable to read. One of my goals for the near future is to create a brief implementation of a caption to image model to test the idea's viability as a senior research project. Finally, you provided me with an opportunity to work on a cutting-edge research project for a meteorology lab and told me to talk to Dr. Stickler to learn more about the project. I was able to find him in his classroom today (Thursday) during lunch and we will discuss the project during Syslab class time (3rd period) in the library. Overall, I believe that this past week was productive because I was able to further explore my proposed ideas by finding novel applications and actually testing them out.