**CSE 541 Computer Vision**

**Section 1**

**Group 8**

**Project Number 7: Identification of lower extremity injuries from jump-landings videos: A Deep Learning Approach**

**Weekly Report**

**Week 4**

**Introduction:**

Sports like basketball and football involves rapid high-intensity movements which require high stamina, fitness and flexibility. As a result, there are chances of getting lower extremity injuries due to incorrect posture as a result of altered neuromuscular control while playing. Therefore, for early identification of such movements can prevent serious injuries. Our aim is to develop a robust model which helps in identifying such movements.

**Progress Summary:**

We initiated the discussion on developing which kind of model for predicting the chances of lower extremity injuries. What we understood from existing literature that the model developed were kind of binary, in terms of classifying the error. Hence, we thought of a model which was non-binary in terms of predicting the score. It would take in parameters, find the non-linearity of parameters defining the landing error score. We will use Media Pipe for extracting Initial Contact Frame and Maximum Knee Flexion Frame. Error will be assessed based on angle thresholds, distance threshold, and positions using a deep learning model. Provide injury risk score for each video and annotate false landing positions in video.

**Next Steps:**

We plan on continuing exploring new ideas for model and not limit to the idea specified above.