

## CP-138:

### 3D INFORMATION EXTRACTION FROM PHYSICS EXERCISE VIDEOS

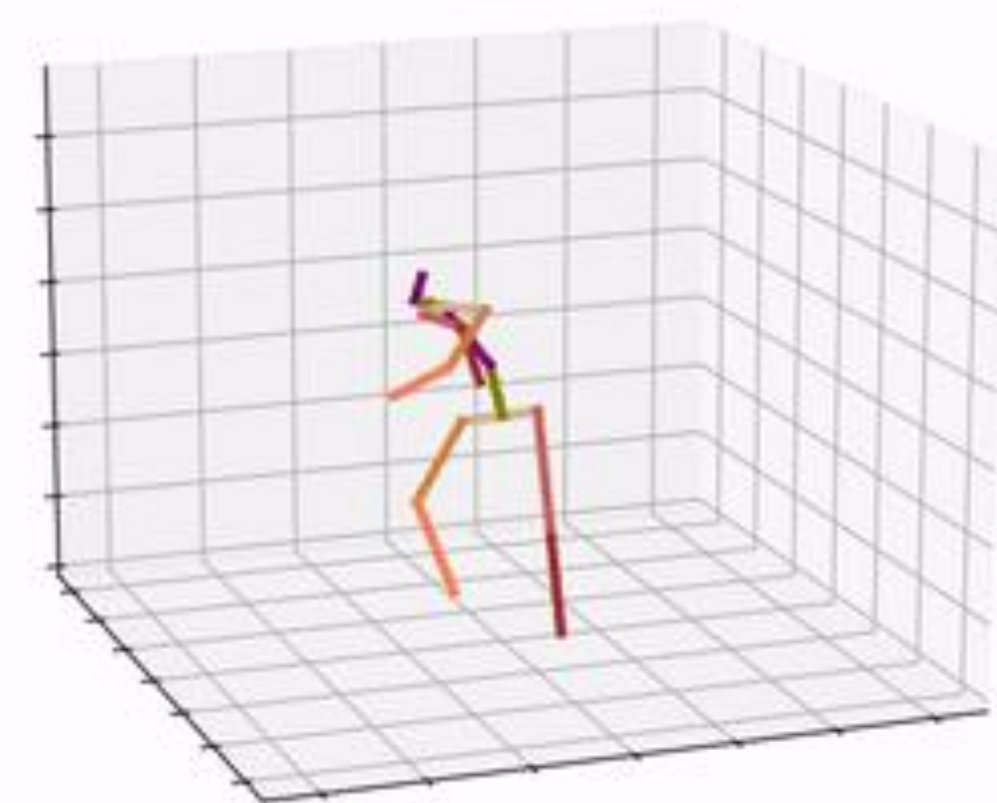
#### BACKGROUND:

The purpose of this project is to compare multiple open-source packages from GitHub repositories to determine the most efficient package for extracting 3D pose information from customized physics and exercise videos.

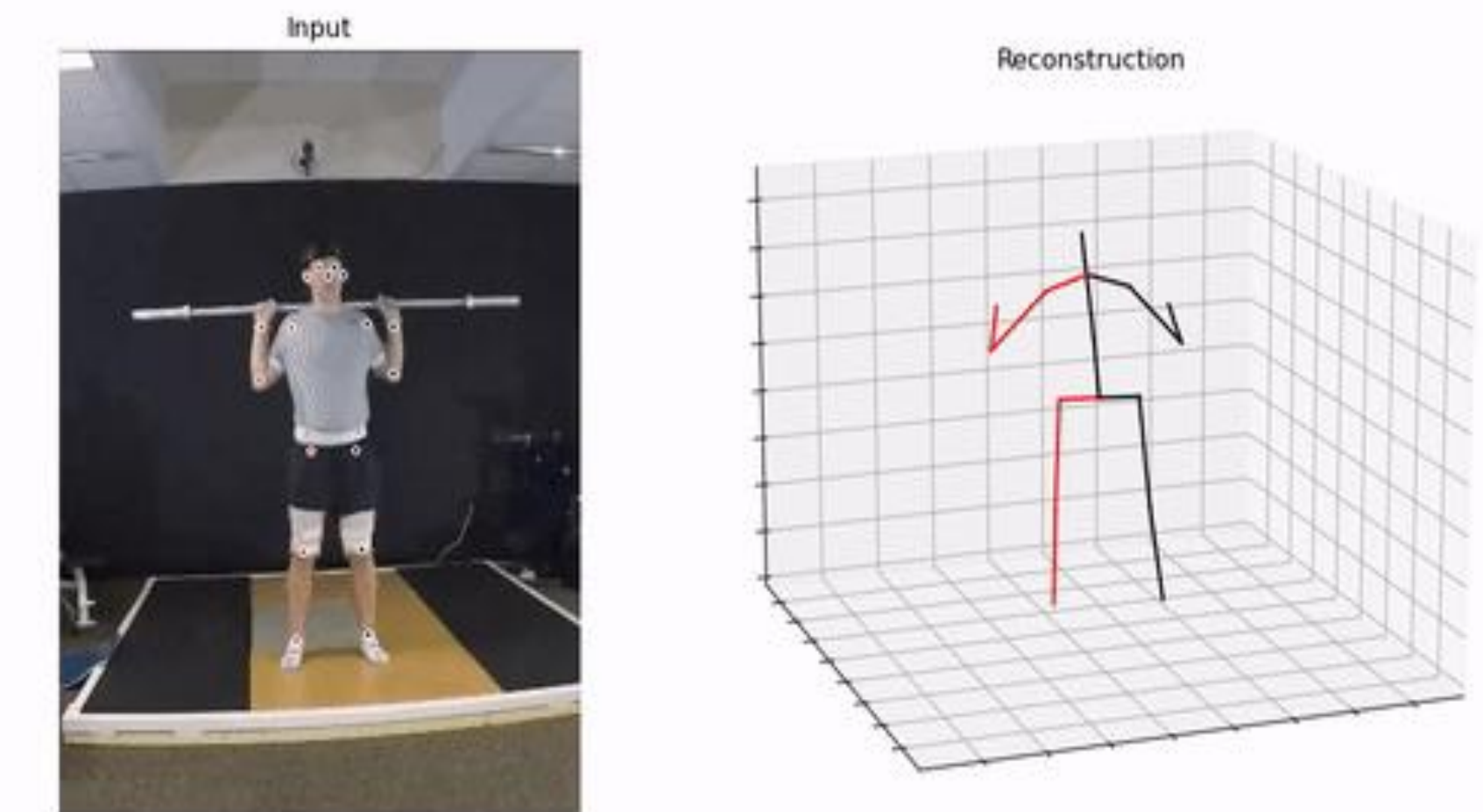
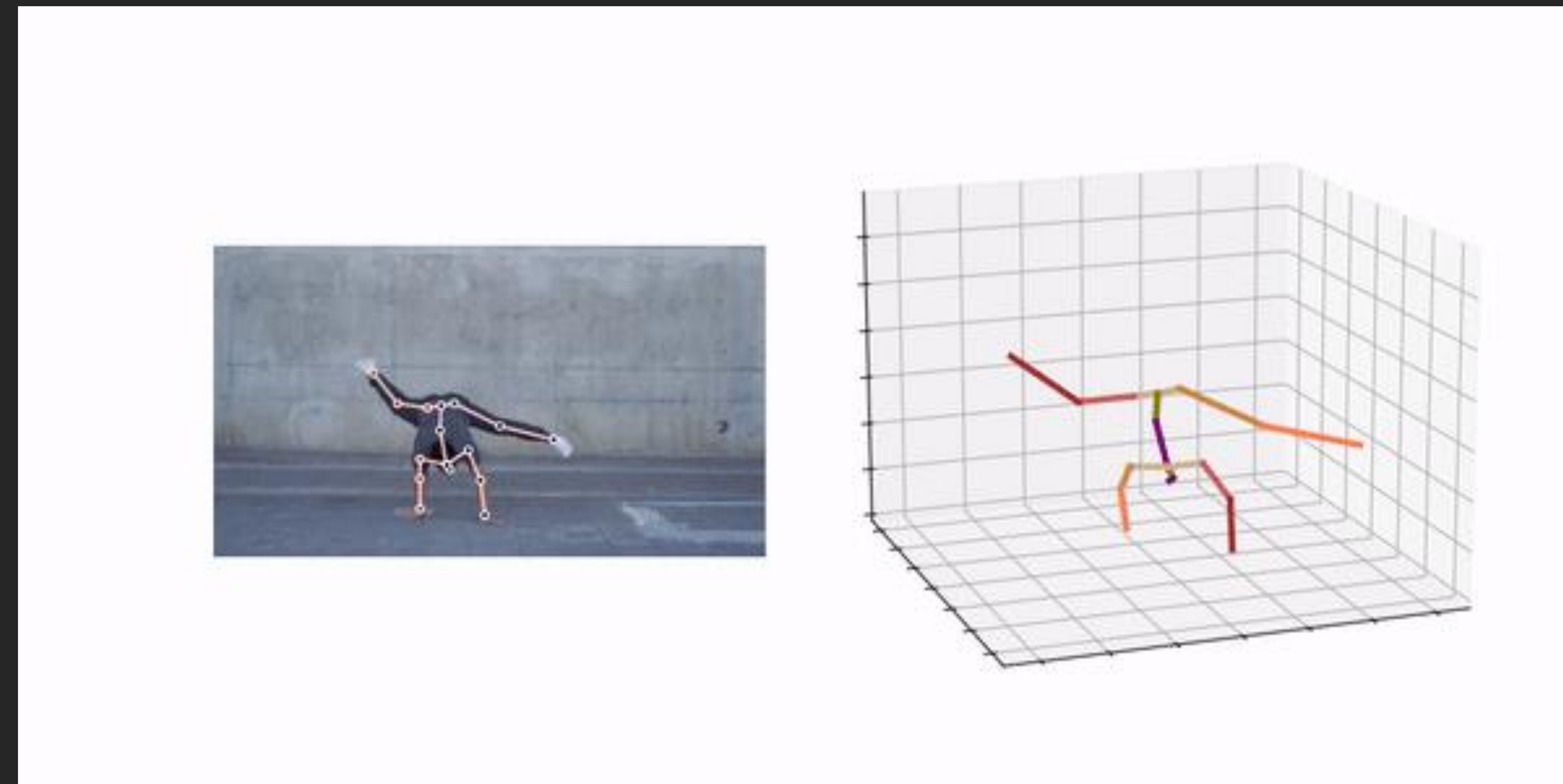
Each of the packages utilizes Machine Learning to and Neural Network models to estimate the 3D pose of athletes over a 2D key-point frame signature.

#### METHODS

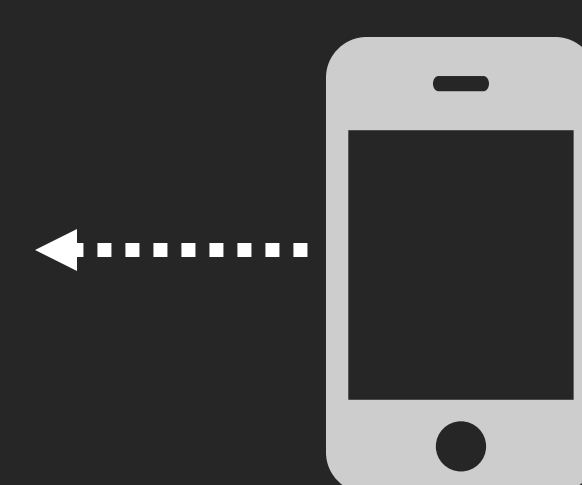
1. Researched VideoPose3D and 3DPoseEstimation from GitHub.
2. Tested both packages on Windows computers utilizing Python 3.7 or newer.
3. Used both packages on a set of training videos to determine most efficient settings.



Machine learning and Neural Networks can be utilized in the **extraction** of **3D data** from physics exercise **videos**. We used two **open-source** software to **develop our results**.



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