Original Milestone 1 Goals:
The GUI allows the user to select a video or folder of images for the program to process and allows the selection of processing options (like inserting new frames or not). The datasets (TrackingNet and MPII) should be processed and usable. Student C should be able to extract the part of a test image in a bounding box and perform operations like rotations, movements, and modify the pixels (ex. colour and opacity).

Progress:
The MPII dataset has been fully processed for limb detection with all joint coordinates converted to relevant limb bounding boxes (work found in the various files under the 'Limb Detection' folder on the repo). The dataset class that will be used for the model is complete and found in Model.ipynb.

2nd dataset with additional object tracking samples has been processed. Work can be found under the folder "Dataset 2 - Tracking".

Website backend can take video inputs, save videos onto local machine, and display video. Frontend is also functional. Work for backend and frontend found in the "final_project, main_site, db.sqlite3, manage.py" folders and files.

Basic image manipulation and transforms like movement and blurring pixels work for full images and sections of images. Work found in the "Image Manipulation" folder.

Changes:
The TrackingNet dataset has been replaced as it's too large. One training module (of which there are 12 + test) is 90 GB, which is more space than Google Colab allows. We're replacing it with this dataset: https://www.kaggle.com/kmader/videoobjecttracking. We may also include additional datasets for more object classes (and potentially use some of TrackingNet for visual evaluation).

The original plans for the GUI were to create a desktop app with TKinter. This has been changed to a webpage with the same functionality and made with Django.

We're not going to give the option to not insert new frames as it would look awful.

Challenges/Bottlenecks:
The bounding boxes of the limb detection dataset were approximate and are not 100% ideal. Hopefully, it should be good enough, otherwise manually review and removal of bad samples are necessary. Transforms on the Dataset class is being difficult because of coordinates, need some more time to be able to support certain transforms.

Image rotation was pushed back to milestone 2. This is fine as blurring was originally intended for milestone 2 but was done for milestone 1.

Team Member Progress:

Henry:
Finished converting MPII to limb detection with bounding boxes (found in the Limb Detection folder). Currently working on fixing transforms and writing training code.

Ivan:
Finished a basic backend setup using Django. Successfully able to take in video inputs and save onto local machine and display video.

William:
Finished image manipulation code, i.e. blurring and moving parts. Also helped create frontend

Nancy:
Found and processed the second dataset