

# Fitness Activity Recognition

Demo 6  
6/3/2022



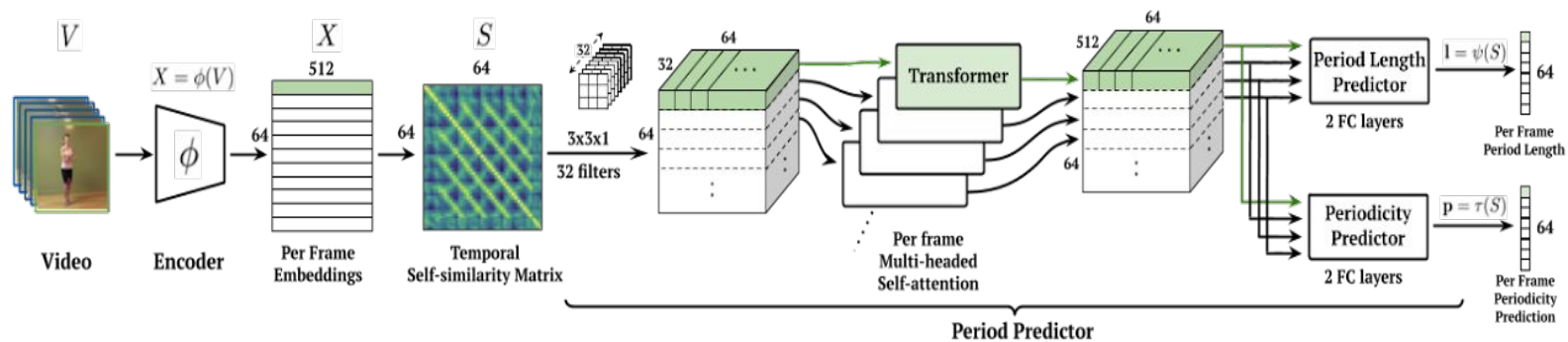
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# Previous work

- Previous cohort used **MoveNet** model.
- We tested **BlazePose** model.
- We tested **Repnet** for counting repetitions.



# RepNet Model



*Detailed architecture of RepNet*

# RepNet Parameter Tuning


The accuracy of the model prediction depends on:

THRESHOLD: 0.1

WITHIN\_PERIOD\_THRESHOLD: 0.4

CONSTANT\_SPEED: ☐ 

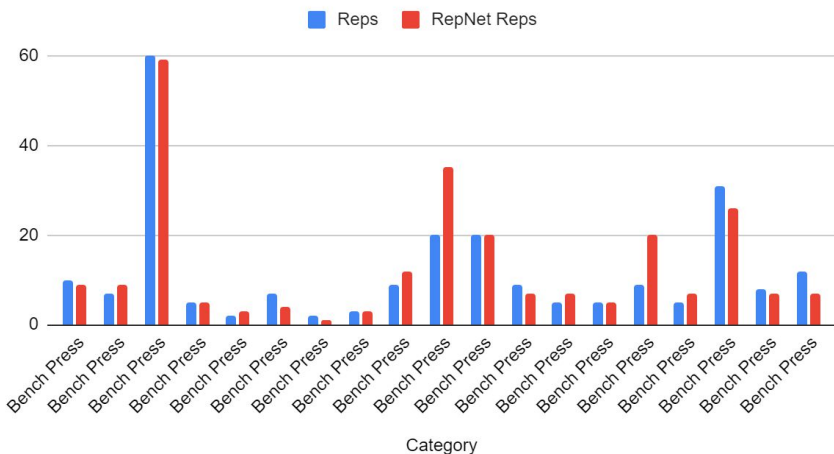
MEDIAN\_FILTER: ☐ 

FULLY\_PERIODIC: ☐ 

# RepNet Output

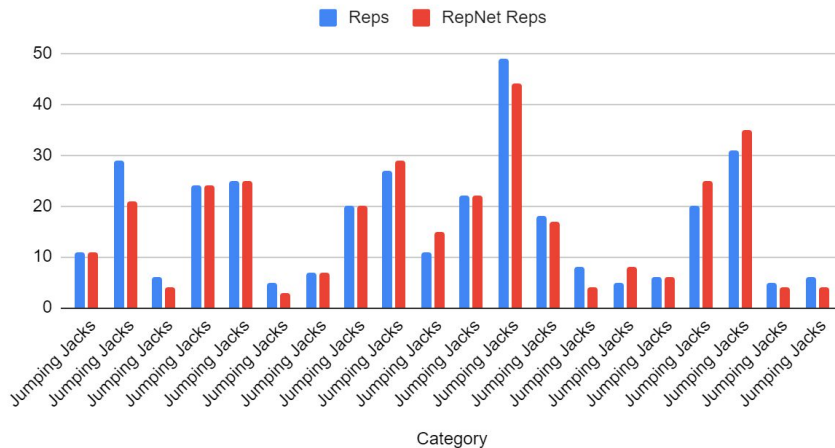
-We ran over 50 videos to understand working of RepNet on fitness activities:

Reps and RepNet Reps



Bench Press

Reps and RepNet Reps



Jumping Jacks

# Goals for Next Week:

- RepNet:
  - How we can incorporate it into current pipeline: Running it with Classification?
  - Add “Reps Count” to our set of engagement metrics
- Publishing Results:
  - Create Analysis for different 3D pose estimation models
  - Create Analysis for different classifier models
  - We will continue to add more as we move along with our work.