Time Understanding

Experiments:

- Reverse (randomly reverse the order of the clip → classification)
- Blackout (randomly set one out of n chunks to zero → predict which (classification))
- Freeze (randomly freeze one out of n chunks → predict which (classification))
- Permutation (randomly permute n chunks → predict perm. order (classification)

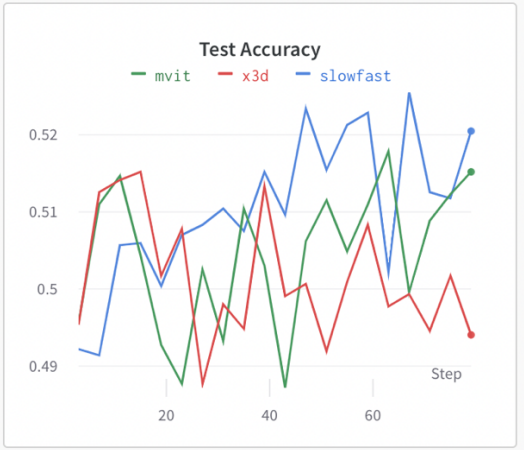
Models:

- Slow (3DResnet based, supervised)
- SlowFast (3DResnet based, supervised)
- X3D (3DResnet based, supervised)
- MViT (Transformer based, supervised)

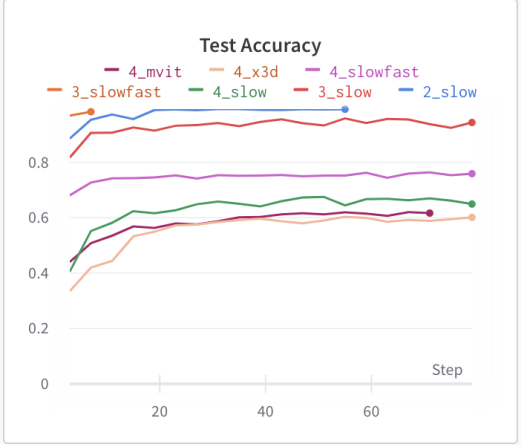
- VIMPAC (Transformer based, self-supervised)

Results:

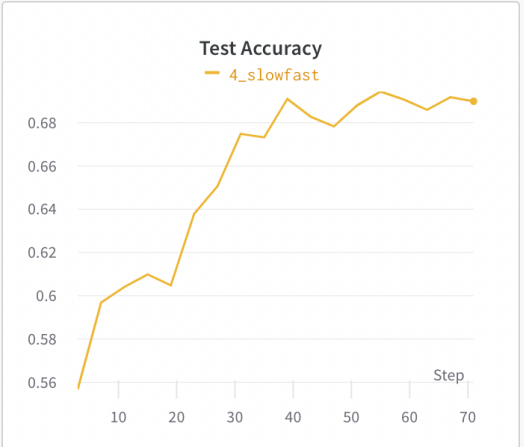
Reverse



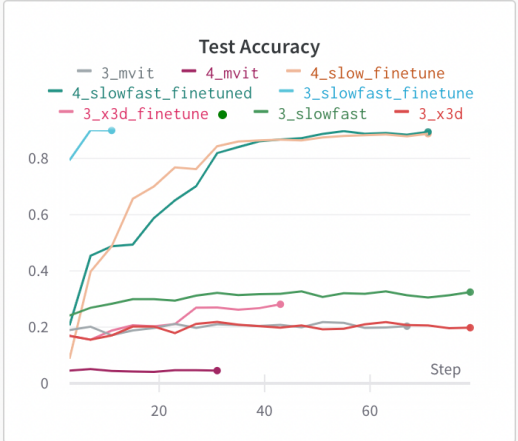
Blackout



Freeze



Permutation



Inference for Action Classification is average over 10 randomly sampled sub-clips. Accuracy for 10 randomly **frozen** sub-clips is quite high (Slow: 58 % vs 72 % Kinetics400).