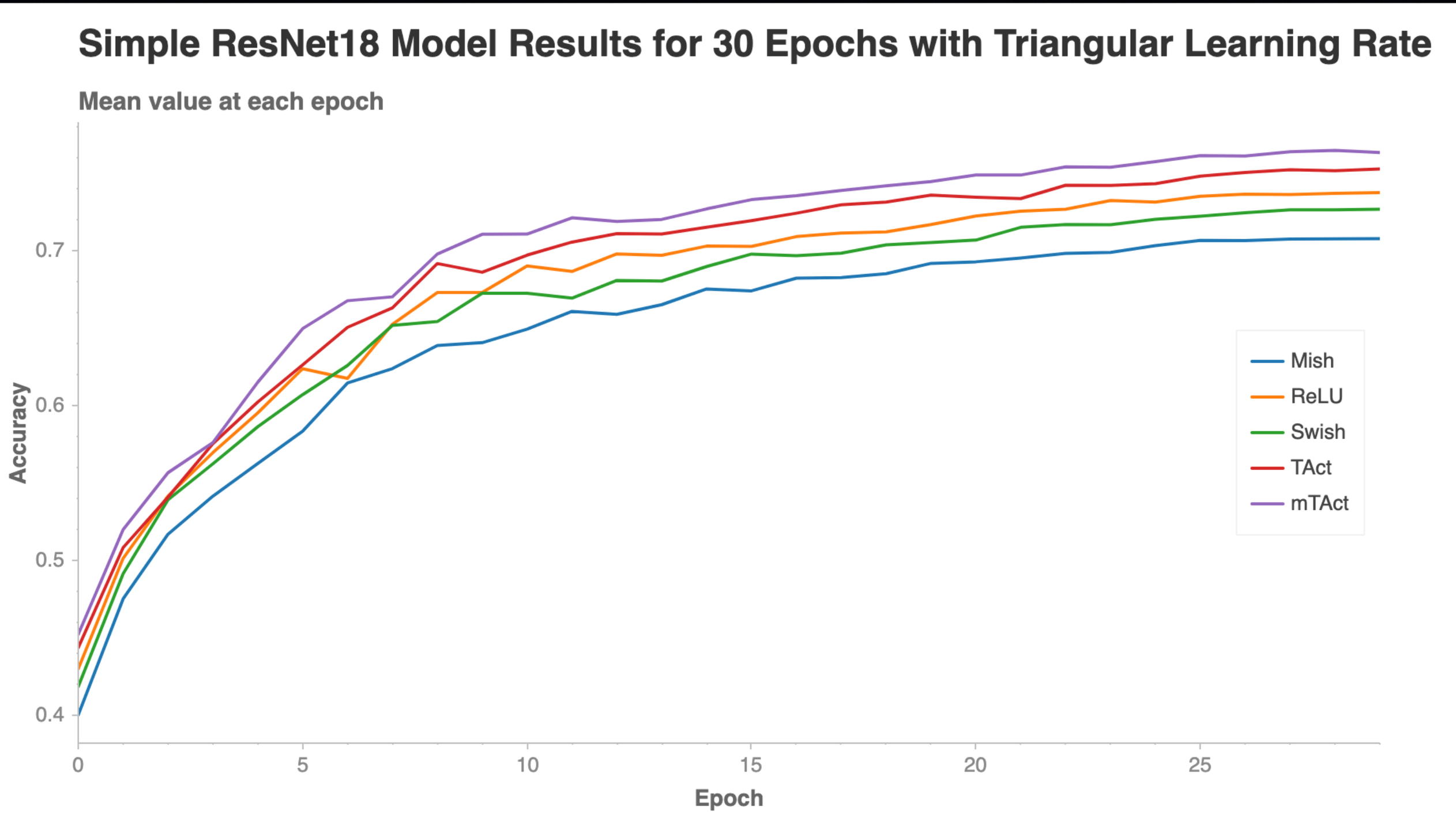
Additional Graphs of Simple ResNet18 Functional Model

Gobind Puniani
MATH 198: Spring 2020
04/23/20

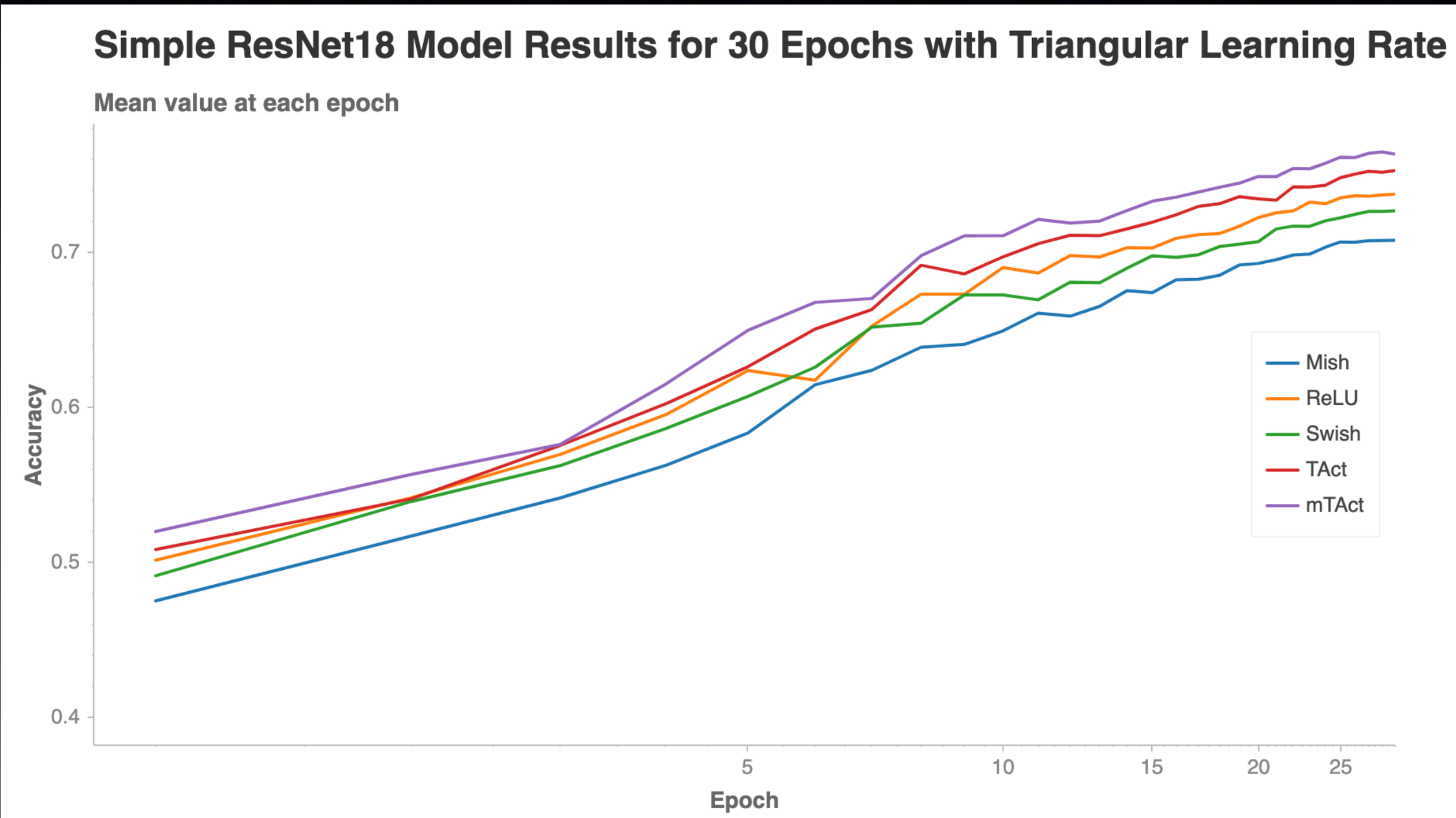
Method

- Simple ResNet 18 model only with ResNet module modified
    - 5 activation functions: ReLU, Swish, Mish, TAct, and mTAct
    - 3 runs for each activation function
    - 30 epochs per run
    - Two versions: with Triangular Learning Rate and without TLR

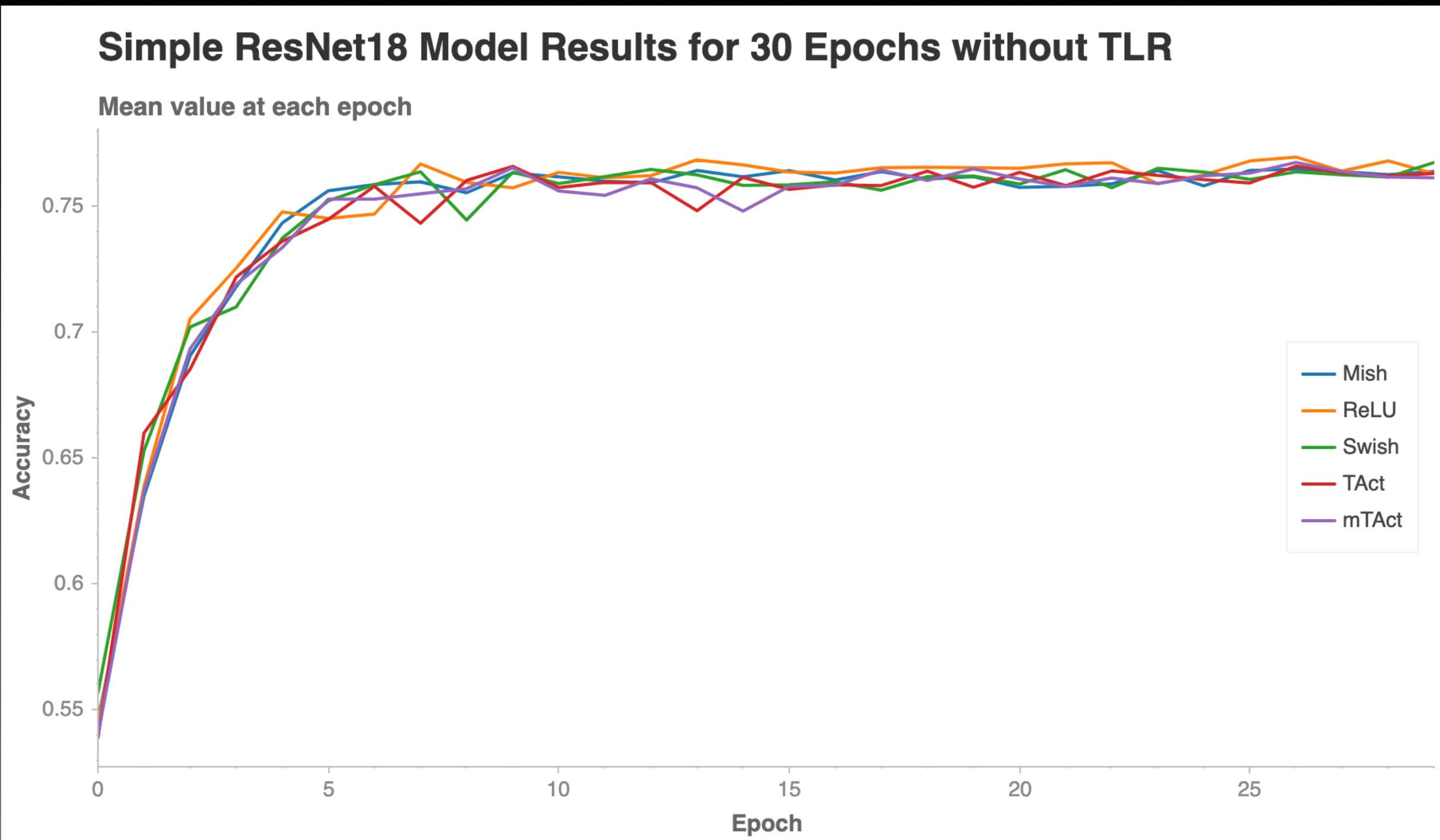
30 Epochs on a Linear Scale with TLR



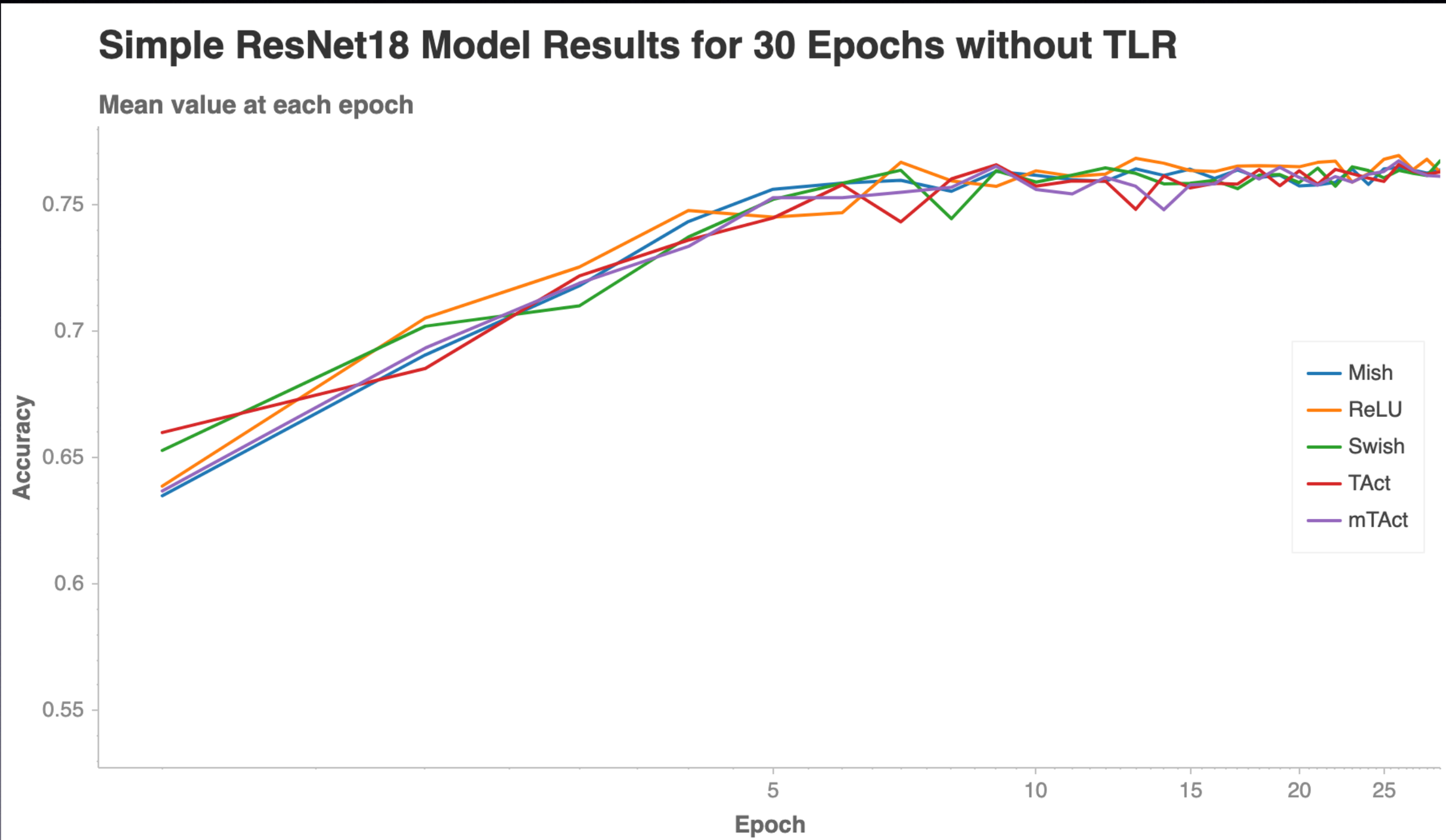
30 Epochs on a Logarithmic Scale with TLR



30 Epochs on a Linear Scale without TLR



30 Epochs on a Logarithmic Scale without TLR



Conclusion

- mTAct and TAct achieved top two best results with TLR, respectively
    - Other 3 performed worse, with significantly different final accuracies
- Without TLR, final accuracy comparable across all 5 activation functions
    - Initial accuracies different, but accuracies eventually converged