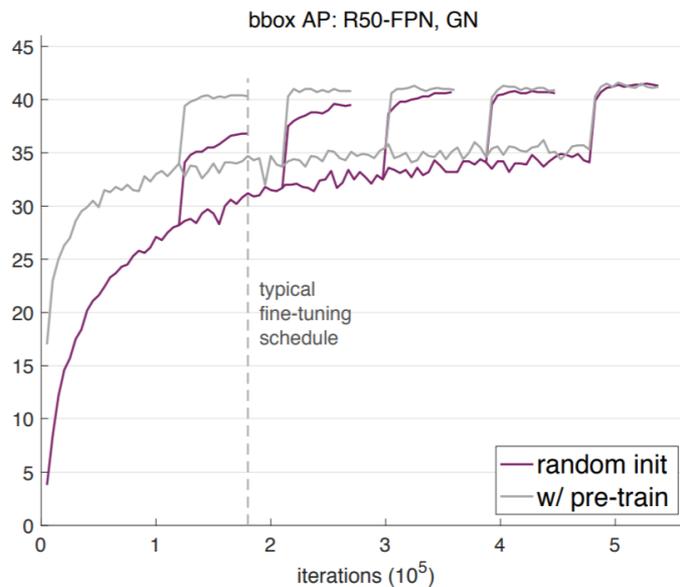


# Using Pre-Training Can Improve Model Robustness and Uncertainty

Dan Hendrycks, Kimin Lee, Mantas Mazeika (ICML 2019)

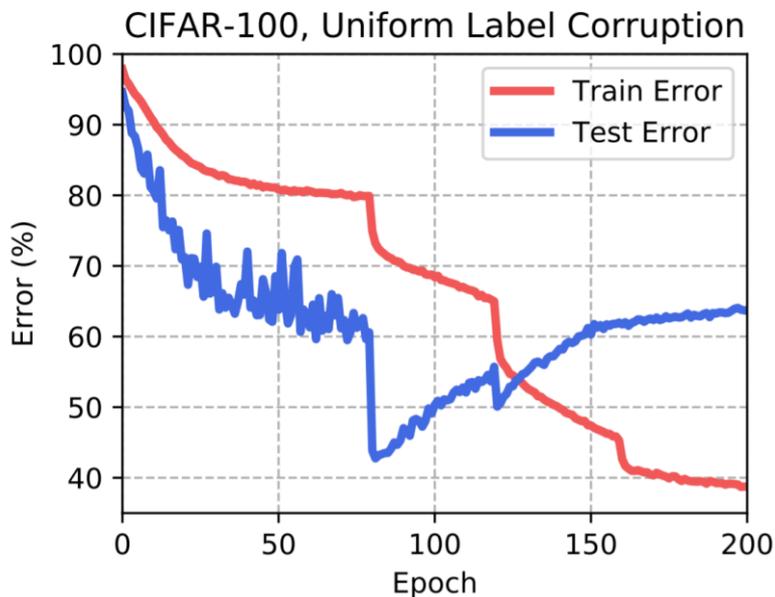
# “Rethinking ImageNet Pretraining” He et al., 2018.

- “Is ImageNet pre-training necessary? No—if we have enough target data (and computation).”

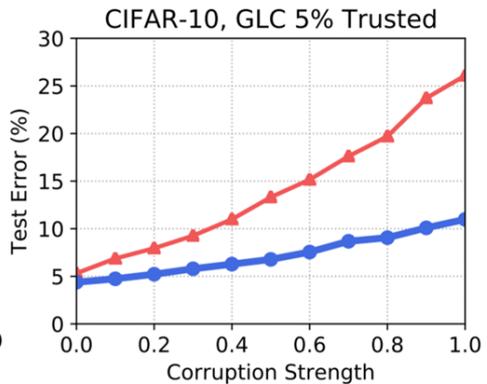
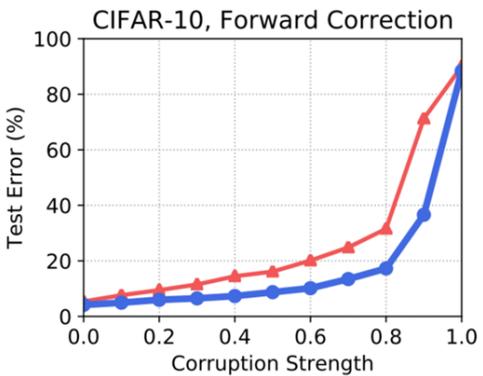
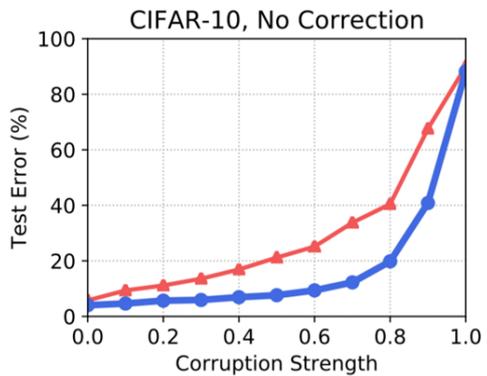
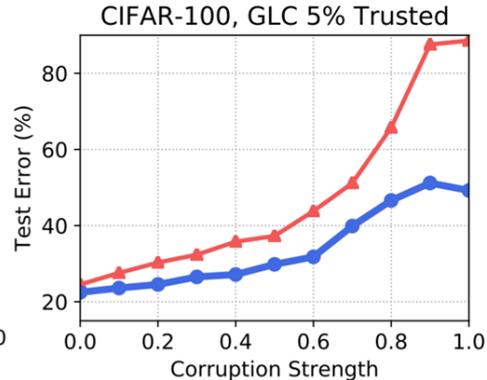
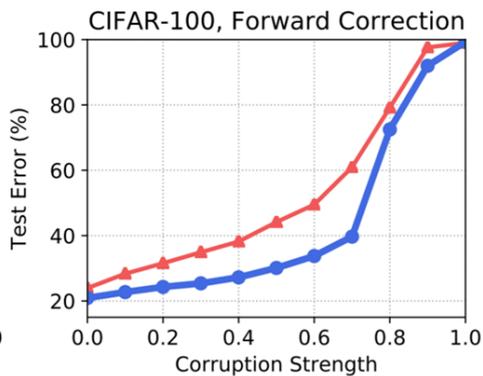
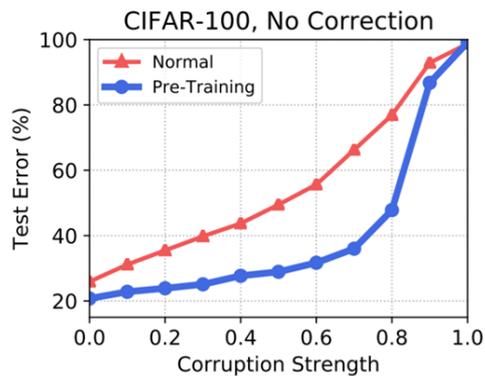


# Pre-Training Can Help Label Corruption Robustness

- Training for longer will hurt



# Pre-Training Can Help Label Corruption Robustness



# Pre-Training Can Help Adversarial Robustness

	CIFAR-10		CIFAR-100	
	Clean	Adversarial	Clean	Adversarial
Normal Training	96.0	0.0	81.0	0.0
Adversarial Training	87.3	45.8	59.1	24.3
Adv. Pre-Training and Tuning	87.1	57.4	59.2	33.5

# Pre-Training Can Help Calibration

