

# Lecture 25: Deep neural networks continued

Professor Ilias Bilonis

## Avoiding overfitting via early stopping

# Early stopping - meta algorithm

— SGD

- runs on top of the regular stochastic gradient descent for training the parameters of the network

- Split your dataset into training and validation.
- Train using the training dataset. (SGD)
- On each iteration of training, check validation error.
- If validation error starts increasing, stop and revert to previous iteration parameters.

# Validation-based early stopping

