Overfitting and how to detect it

Overfitting

- Fit model to training set

- Model does not work on unseen data (e.g. validation set)

Accuracy

1.0

train

val

0.0

iterations
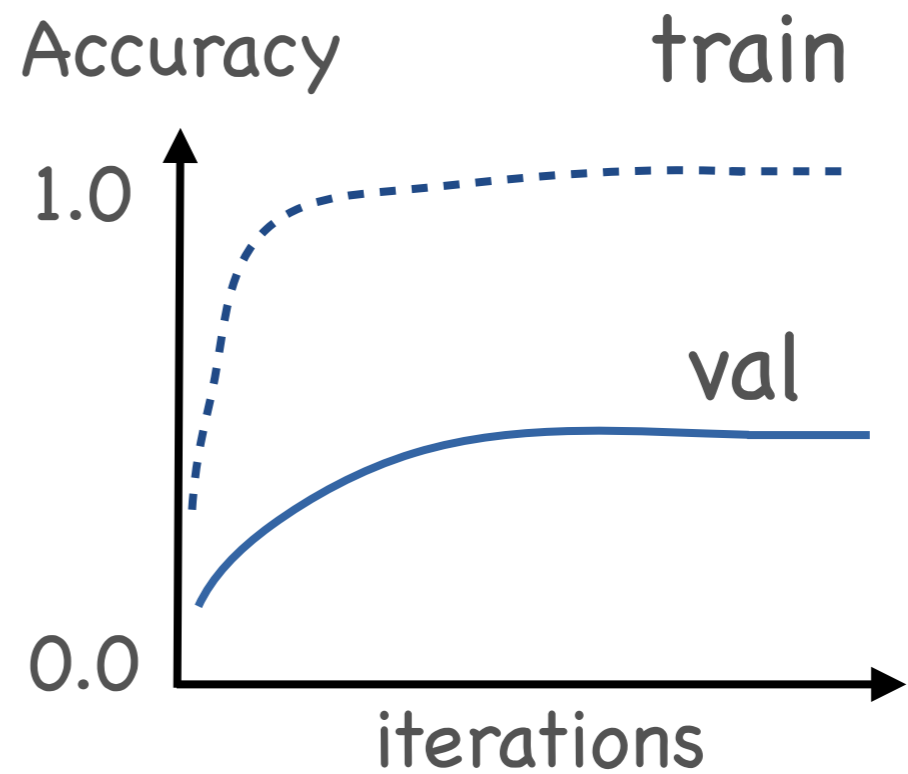
loss

10.0

0.0

iterations
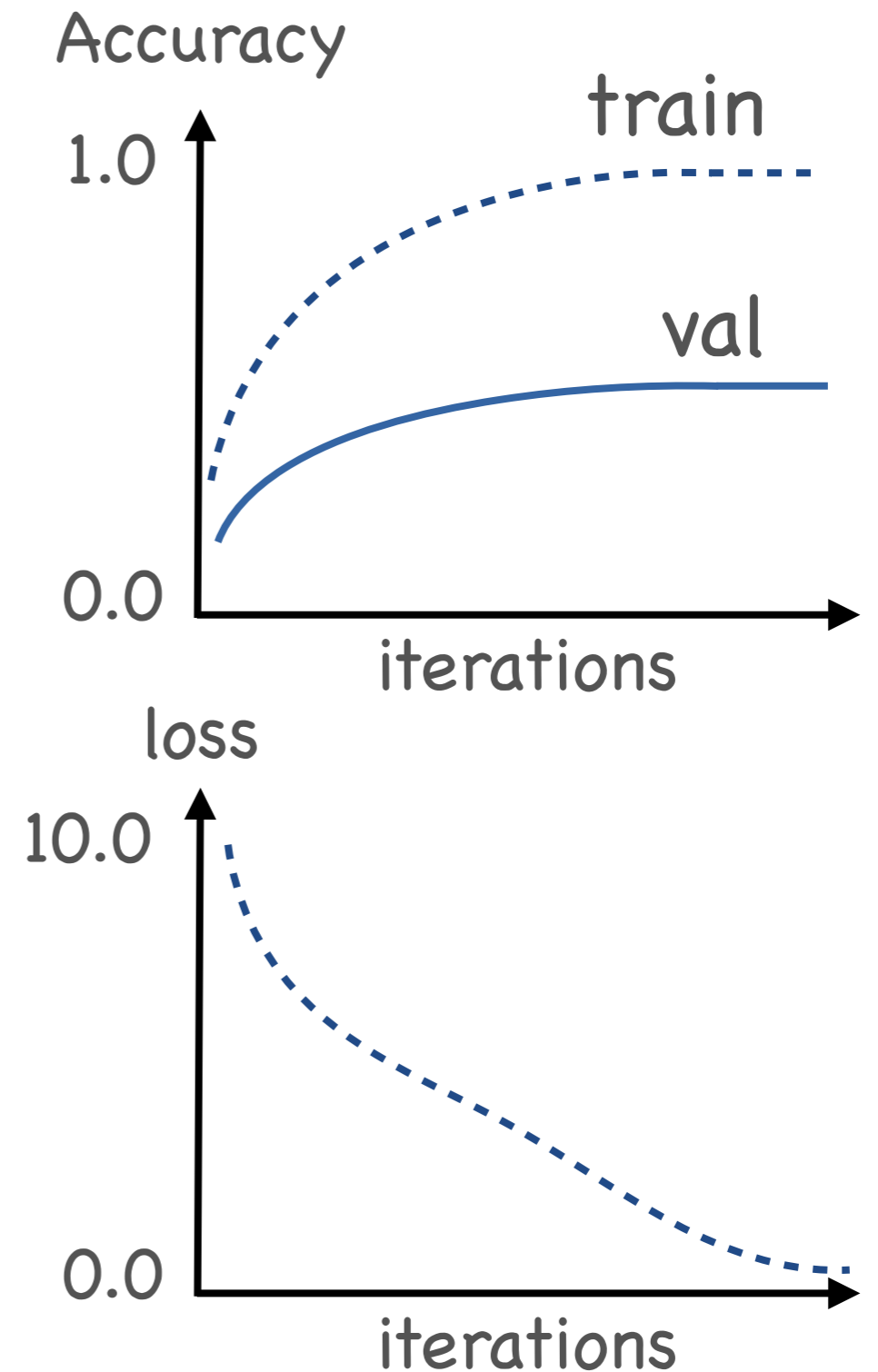
How to detect overfitting?
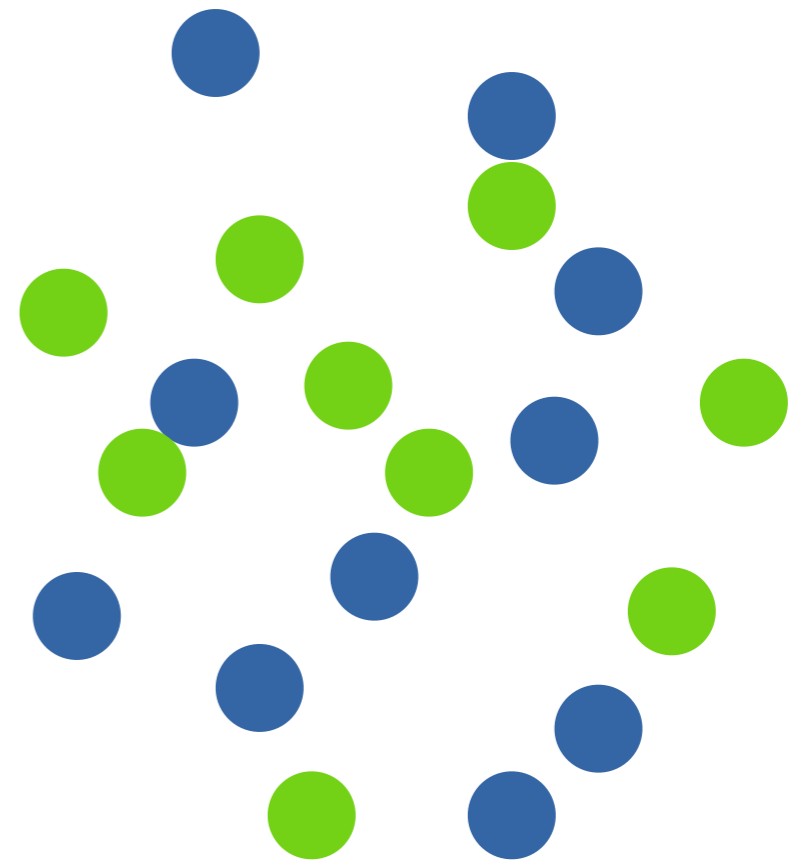
- Plot training and validation accuracy
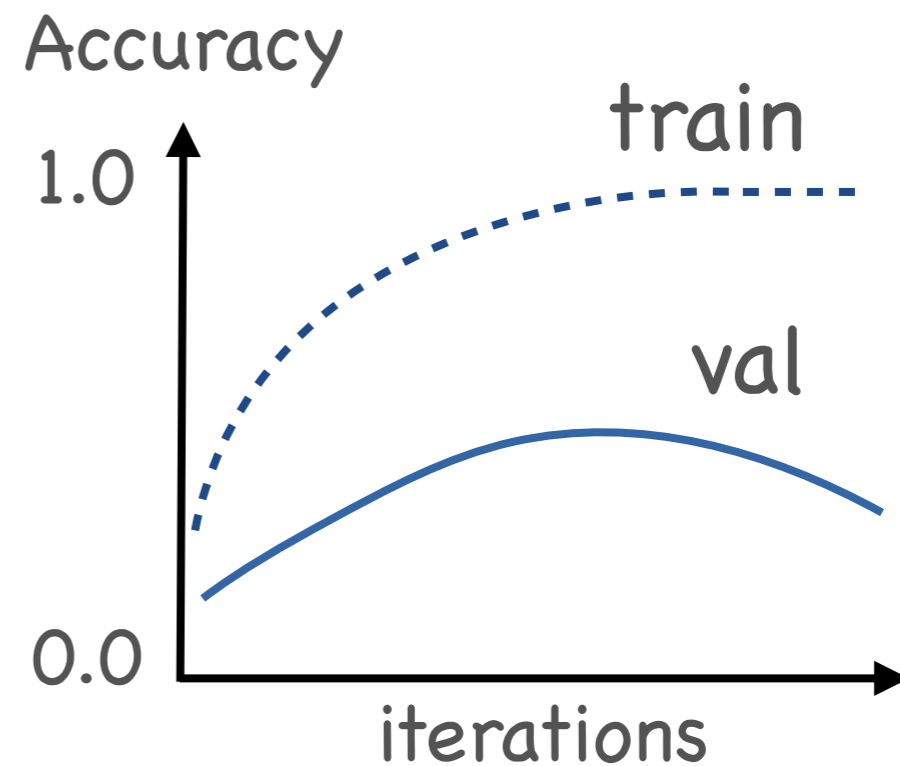
Is overfitting always bad?

Why do we overfit?

- Sampling bias

  - Optimization fits patterns that only exist in training set

Do we overfit with infinite training data?

How do we prevent overfitting?

- Collect more data

- Make the model simpler

  - Regularize

- Transfer learning