

# HP TUNING, REGULARIZATION, OPTIMIZATION

## Week 1

- Train / Dev / Test set
  - Bias-Variance in NN
  - Regularization Techniques:
    - L1, L2
    - Dropout
    - Data Augmentation
  - Feature Normalization
  - Visualizing Gradient
- Early Stopping

## Week 2

- Optimization Algos:
    - Mini-batch
    - Exp. weighted avg
    - RMS Prop
    - Adam
    - Learning rate decay
- Bias-Variance Framework

## Week 3

- HP tuning
- Batch Normalization

