

# Homework #5

GitHub: [https://github.com/pballou/ECGR\\_4106/tree/master/Homework](https://github.com/pballou/ECGR_4106/tree/master/Homework)

1. Character prediction
  - a. Sequence length of 10
    - i. Train loss: 0.1371
    - ii. Validation loss: 3.8674
    - iii. Validation accuracy: 36.4%
  - b. Sequence length of 20
    - i. Train loss: 0.3032
    - ii. Validation loss: 3.7999
    - iii. Validation accuracy: 29.3%
  - c. Sequence length of 30
    - i. Train loss: 0.4670
    - ii. Validation loss: 3.9806
    - iii. Validation accuracy: 25.4%
2. Tiny Shakespeare
  - a. Initial hyperparameters
    - i. Sequence length of 20
      1. Train loss: 2.1492
      2. Validation accuracy: 35.9%
    - ii. Sequence length of 30
      1. Train loss: 2.3911
      2. Validation accuracy: 28.3%
    - iii. Sequence length of 50
      1. Train loss: 2.3103
      2. Validation accuracy: 31.6%
  - b. Updated hyperparameters
    - i. Sequence length of 20
      1. Train loss: 1.9931
      2. Validation accuracy: 39.3%
    - ii. Sequence length of 30
      1. Train loss: 2.0767
      2. Validation accuracy: 35.3%
    - iii. Sequence length of 50
      1. Train loss: 2.1562
      2. Validation accuracy: 33.0%
3. English to French transformer
  - a. Train loss: 0.0163
  - b. Validation loss: 0.0043
  - c. Validation accuracy: 79.2%

4. French to English transformer
  - a. Train loss: 0.0398
  - b. Validation loss: 0.0047
  - c. Validation accuracy: 78.0%