Experiment #1:

- Parameters:

  LR=0.01,

  epochs=25,

  batch_size=32,

  dropout,[0.3 ,0.2 ,0.1]=

  activation='sigmoid,'

  kernel_regularizer=L2-ה בכל שכבות (0.0001)Dense
- Final validation accuracy: 0.9225
- Notes: Best performance at epoch 25

Experiment #2:

- Parameters:

  LR=0.005,

  epochs=25,

  batch_size=32,

  dropout=[0.1, 0.2, 0.3],

  activation='relu',

  kernel_regularizer=L2(0.0001) for all Dense layers
- Best epoch: 21
- Final validation accuracy: 0.9312

Experiment #3:

- Parameters:

  LR=0.002,

  epochs=25,

  batch_size=32,

  dropout=[0.1, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for all Dense layers

- Best epoch: 13
- Final validation accuracy: 0.9410

Experiment #4:

- Parameters:

LR=0.002,

epochs=25,

batch_size=32,

dropout=[0.1, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first three Dense layers, L2(0.001) for fourth Dense layer

- Best epoch: 14
- Final validation accuracy: 0.9421

Experiment #5:

- Parameters:

LR=0.002,

epochs=25,

batch_size=32,

dropout=[0.1, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 15
- Final validation accuracy: 0.9367

Experiment #6:

- Parameters:

  LR=0.001,

  epochs=25,

  batch_size=32,

  dropout=[0.1, 0.2, 0.3],

  activation='relu',

  kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 9

- Final validation accuracy: 0.9317

Experiment #7:

- Parameters:

  LR=0.001,

  epochs=25,

  batch_size=32,

  dropout=[0.2, 0.3, 0.4],

  activation='relu',

  kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 12

- Final validation accuracy: 0.9195

Experiment #8:

- Parameters:

  LR=0.001,

  epochs=25,

  batch_size=32,

dropout=[0.05, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 21

- Final validation accuracy: 0.9432

Experiment #9:

- Parameters:

LR=0.001,

epochs=25,

batch_size=64,

dropout=[0.05, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 22

- Final validation accuracy: 0.9403

Experiment #10:

- Parameters:

LR=0.001,

epochs=25,

batch_size=64,

dropout=[0.05, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.002) for third and fourth Dense layers

- Best epoch: 25

- Final validation accuracy: 0.9369

Experiment #11:

- Parameters:

  LR=0.001,

  epochs=25,

  batch_size=128,

  dropout=[0.05, 0.2, 0.3],

  activation='relu',

  kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.002) for third and fourth Dense layers

- Best epoch: 17

- Final validation accuracy: 0.9393

Experiment #12:

- Parameters:

  LR=0.001,

  epochs=40,

  batch_size=128,

  dropout=[0.05, 0.2, 0.3],

  activation='relu',

  kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.002) for third and fourth Dense layers

- Best epoch: 31

- Final validation accuracy: 0.9366

Experiment #13:

- Parameters:

  LR=0.001,

epochs=40,

batch_size=64,

dropout=[0.05, 0.2, 0.3],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 39
- Final validation accuracy: 0.9446

Experiment #14: (the best one)

- Parameters:

LR=0.001,

epochs=40,

batch_size=64,

dropout=[0.05, 0.2, 0.2],

activation='relu',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch: 29
- Final validation accuracy: 0.9467

Experiment #15:

- Parameters:

LR=0.001,

epochs=40,

batch_size=64,

dropout=[0.05, 0.2, 0.2],

activation='sigmoid',

kernel_regularizer=L2(0.0001) for first two Dense layers, L2(0.001) for third and fourth Dense layers

- Best epoch:  33

- Final validation accuracy: 0.9448