Final Model: Keras CNN

Labels

- Normal (0)
- Pneumonia (1)

Parameters

- Batch Size: Null
- Verbose: 1
- View Metrics: Auto
- Validation Split: 0
- Shuffle: True

- Sample Weight: Null
- Initial Epoch: 0
- Steps per Epoch: Null
- Validation Steps: Null

Hyperparameters

- Optimizer: ADAM
- Loss: Binary Cross Entropy
- Learning Rate: 0.001
- Callbacks: Learning Rate Reduction
- Learning Rate Reduction
  - Monitor: val_accuracy
  - Patience: 2
  - Verbose: 1
  - Factor: 0.3
  - Minimum learning rate: 0.000001

- Metrics
  - Accuracy
  - F1
  - Precision
  - Recall
- Epochs: 6
- Validation Data: Validation Set with Data Augmentation
- Class Weight
  - Normal: 1.94
  - Pneumonia: 0.67

Performance Metrics

- Loss: 0.252
- Accuracy: 0.915
- F1 Score: 0.931
- Precision: 0.911
- Recall: 0.954

Layers

- Input
  - Shape: 150
- 2D Convolution
  - Filters: 32
  - Kernel Size: (3, 3)
  - Strides: 1
  - Padding: Same
  - Activation: Relu
- Batch Normalization
- 2D Max Pooling
  - Kernel Size: (2, 2)
  - Strides: 2
  - Padding: Same
- 2D Separable Convolution
  - Filters: 32
  - Kernel Size: (3, 3)
  - Strides: 1
  - Padding: Same
  - Activation: Relu
- Batch Normalization
- 2D Max Pooling
  - Kernel Size: (2, 2)
  - Strides: 2
  - Padding: Same
- 2D Convolution
  - Filters: 64
  - Kernel Size: (3, 3)
  - Strides: 1
  - Padding: Same
  - Activation: Relu
- Batch Normalization
- 2D Max Pooling
  - Kernel Size: (2, 2)
  - Strides: 2
  - Padding: Same
- 2D Separable Convolution
  - Filters: 64
  - Kernel Size: (3, 3)
  - Strides: 1
  - Padding: Same
  - Activation: Relu
- Batch Normalization
- 2D Max Pooling
  - Kernel Size: (2, 2)
  - Strides: 2
  - Padding: Same
- Flatten
- Dense
  - Units: 128
  - Activation: Relu
- Dropout
  - Rate: 0.3
- Dense
  - Units: 1
  - Activation: Sigmoid