Module 4 – Image Classification

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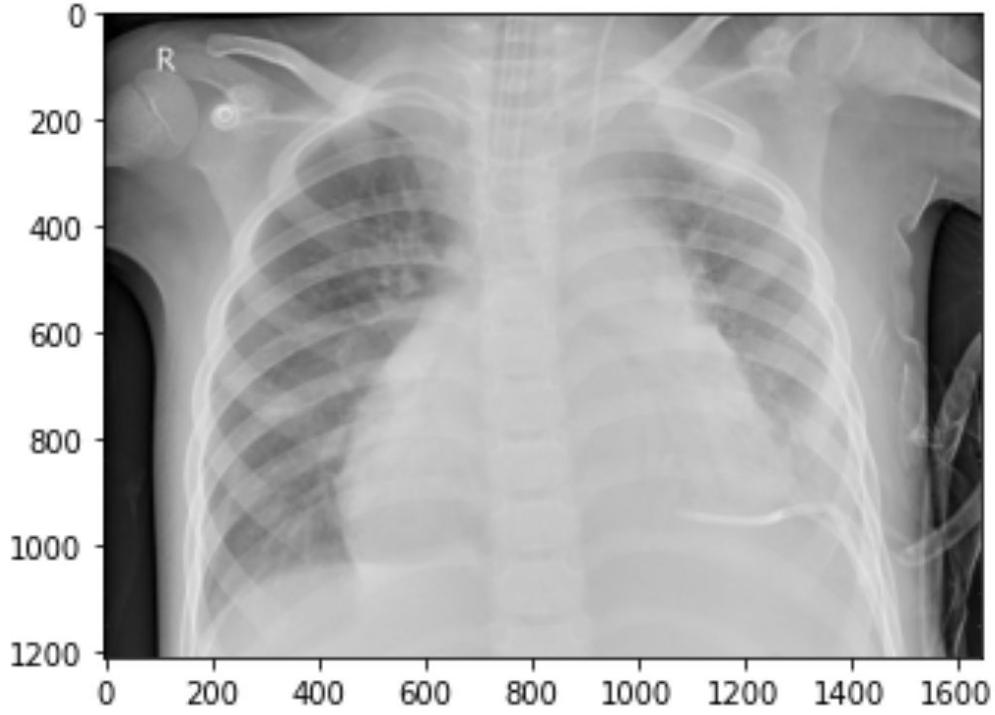
Overview

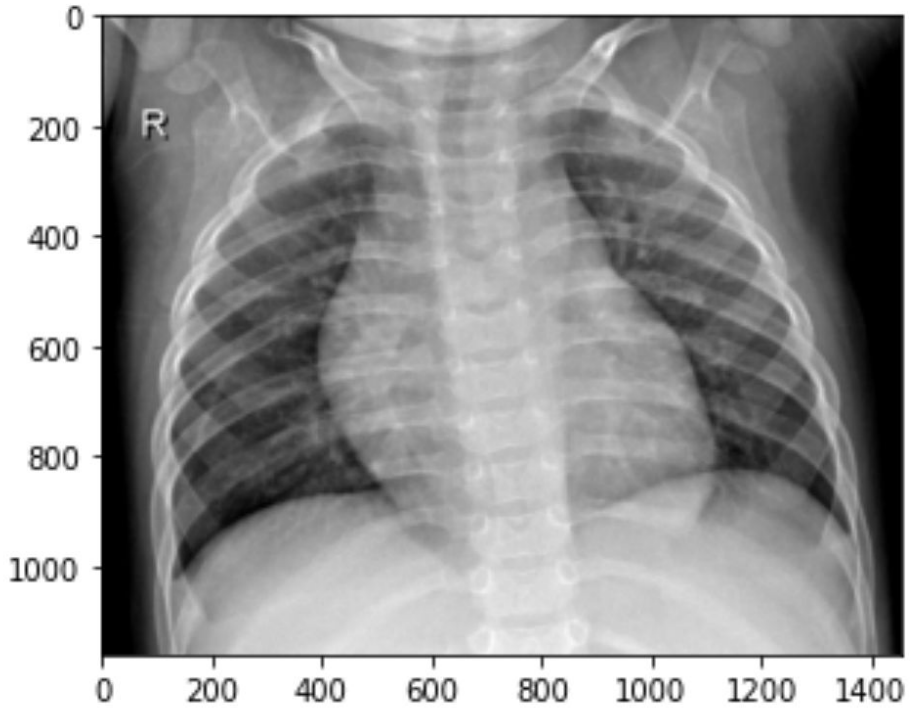
- Images
- Modeling

Chest X-Ray Images

<matplotlib.image.AxesImage at 0x7fcd7677b748>

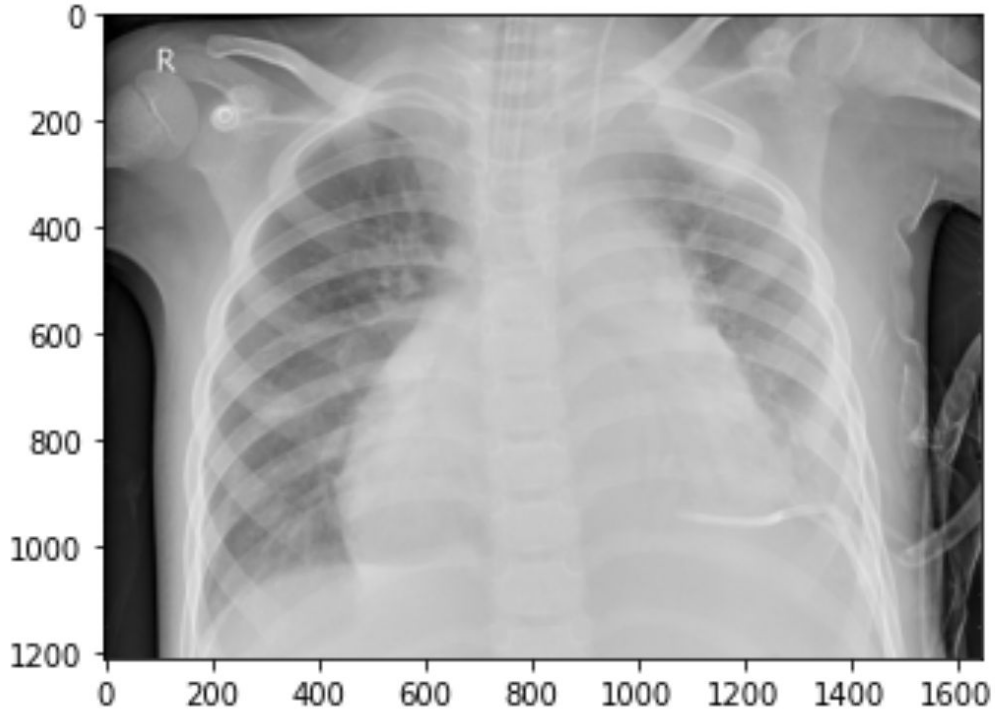


<matplotlib.image.AxesImage at 0x7fcdec38f390>



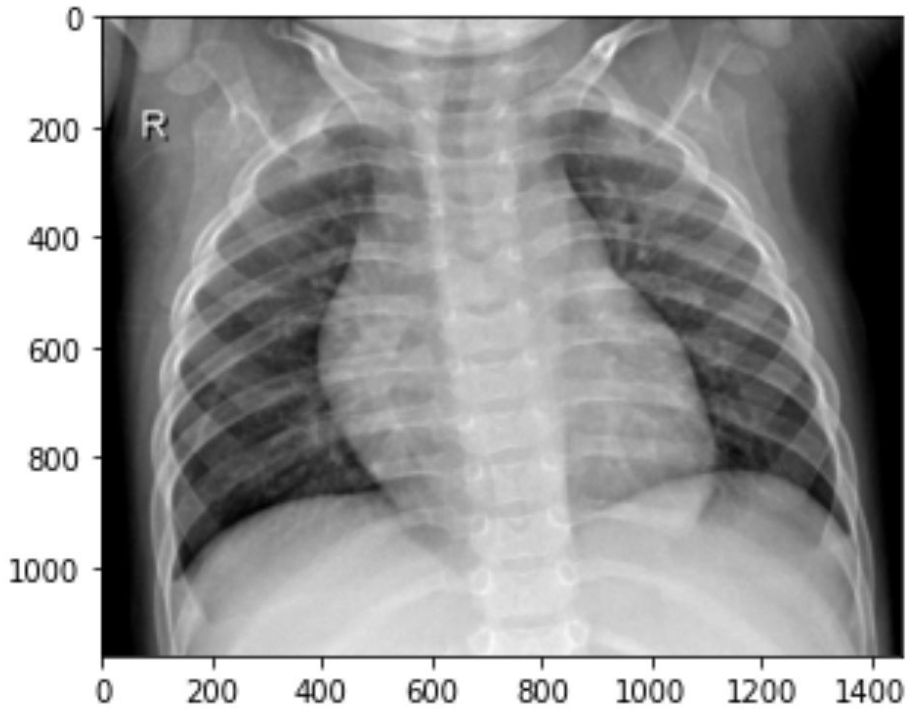
Chest X-Ray Images

<matplotlib.image.AxesImage at 0x7fcd7677b748>



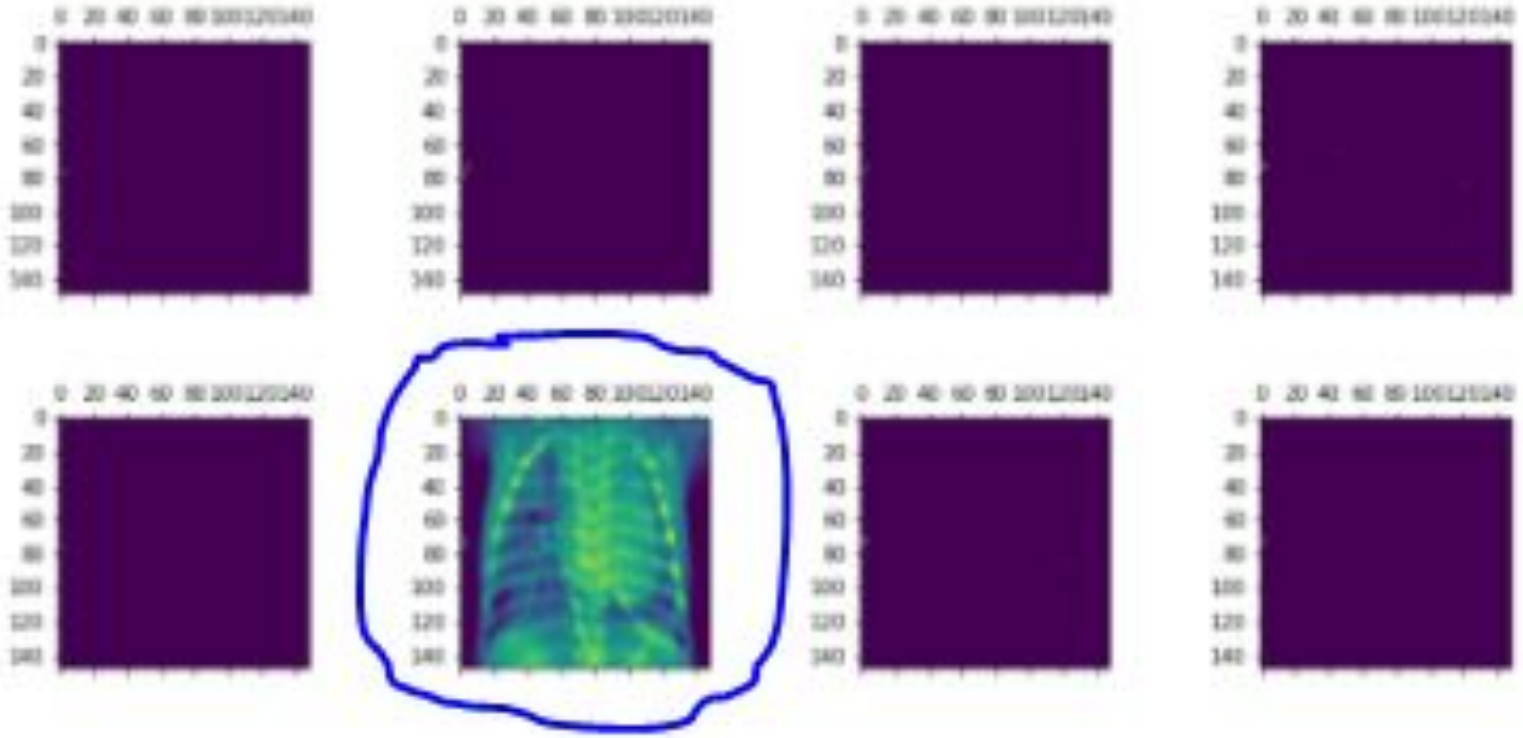
Pneumonia

<matplotlib.image.AxesImage at 0x7fcdec38f390>

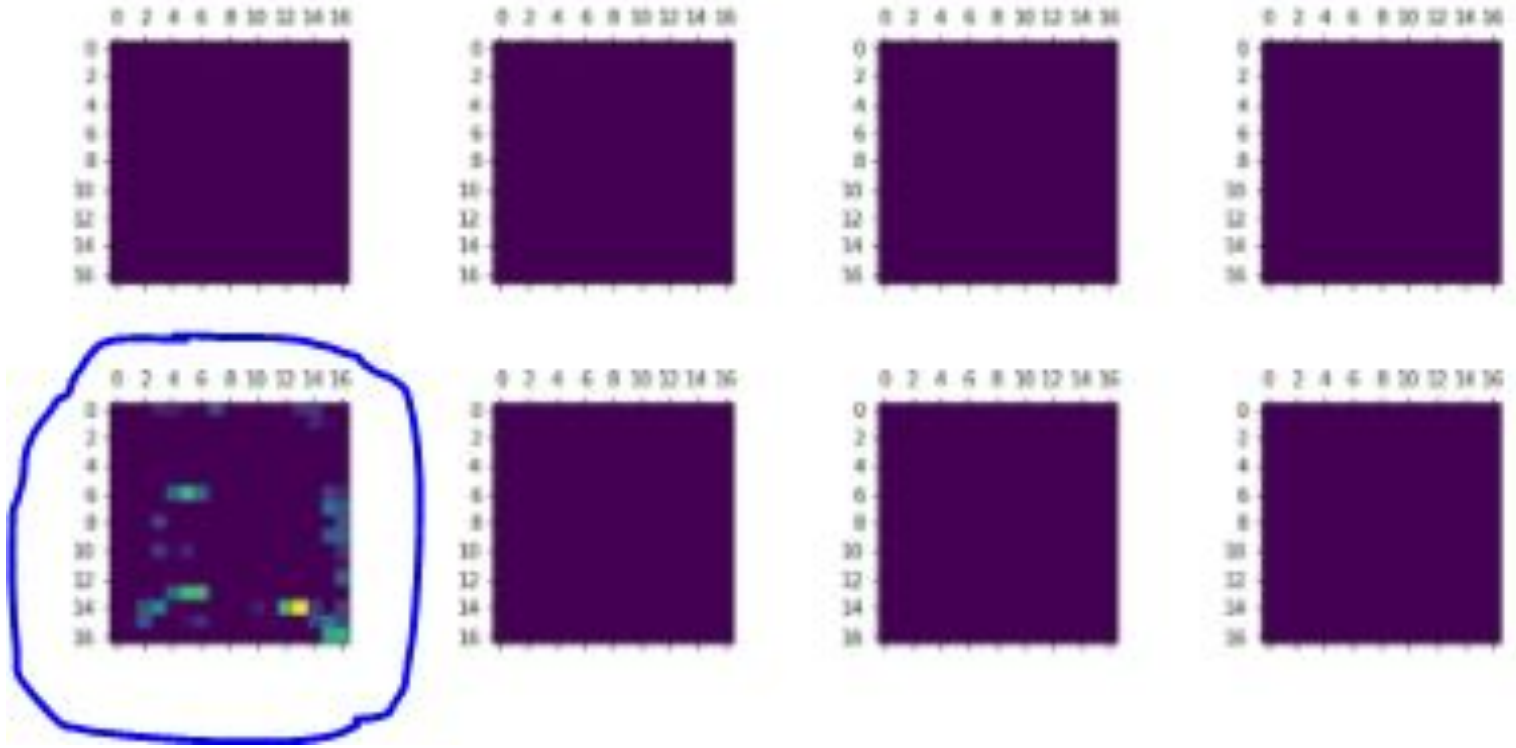


Normal

Channels of first activation layer



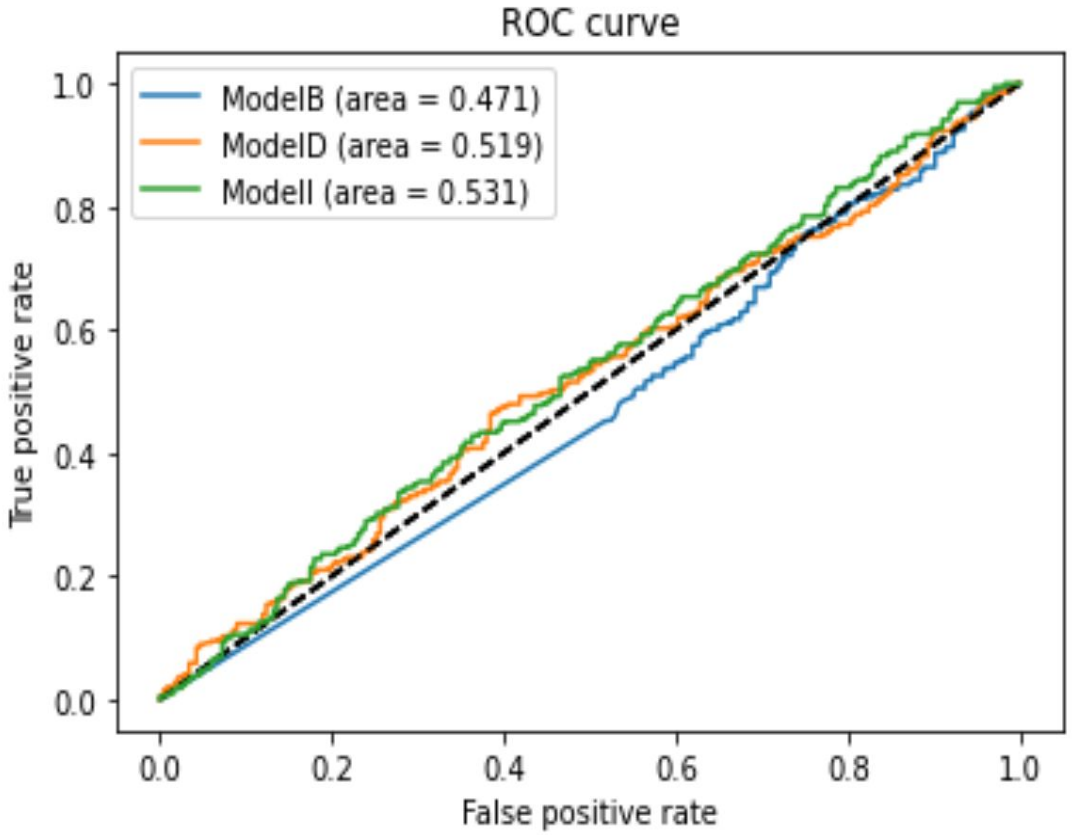
Channels of sixth activation layer



Modeling

- Convolution Neural Network
  - Baseline Model - Convolution Neural Network
  - Regularization Applied
  - Imbalance issues fixed

Results



- ModelI - AUC

Results

	Model	Recall Score	Precision Score	F1 Score	Testing Accuracy	AUC Score
0	modelB	0.599359	0.534569	0.524400	0.599359	0.501709
1	modelD	0.552885	0.526310	0.534024	0.552885	0.495299
2	modelI	0.570513	0.552769	0.558420	0.570513	0.521368

- Accuracy/ Recall - Baseline Model
- Precision/F1 Score - Imbalance Model

Recommendations

	Model	Recall Score	Precision Score	F1 Score	Testing Accuracy	AUC Score
0	modelB	0.599359	0.534569	0.524400	0.599359	0.501709
1	modelD	0.552885	0.526310	0.534024	0.552885	0.495299
2	modelI	0.570513	0.552769	0.558420	0.570513	0.521368

Next Steps

- Doctor's Method
- Cross Validation
- Gather More Data

Thank You