

# X-ray classification project





# Agenda

- Business Problem
- Data Understanding
- Models
- Results
- Thank you

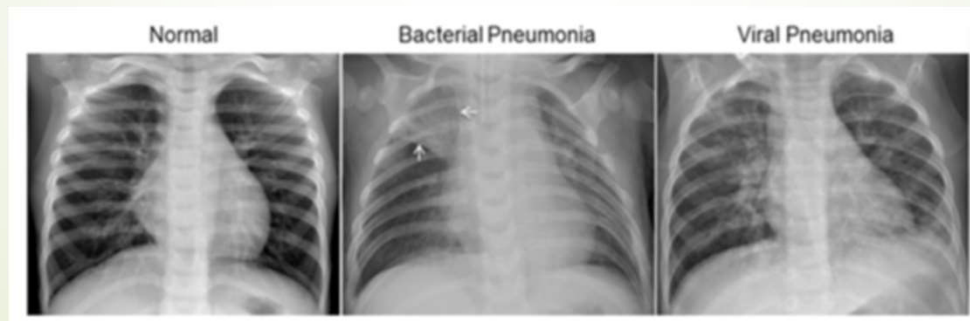


## Business Problem

- A radiologist classifies x-rays as Pneumonia or normal.

# Data Understanding

- 5,856 chest x-ray images.
- Each image is labelled as either normal or pneumonia.
- 25% of the images are labelled normal and 75% pneumonia.



# Models

- Baseline:
  - a neural network with 1 hidden layer, with 64 neurons.
  - Model 1a with only 32 neurons
- 2<sup>nd</sup> model with added layer
- 3<sup>rd</sup> model with higher learning-rate

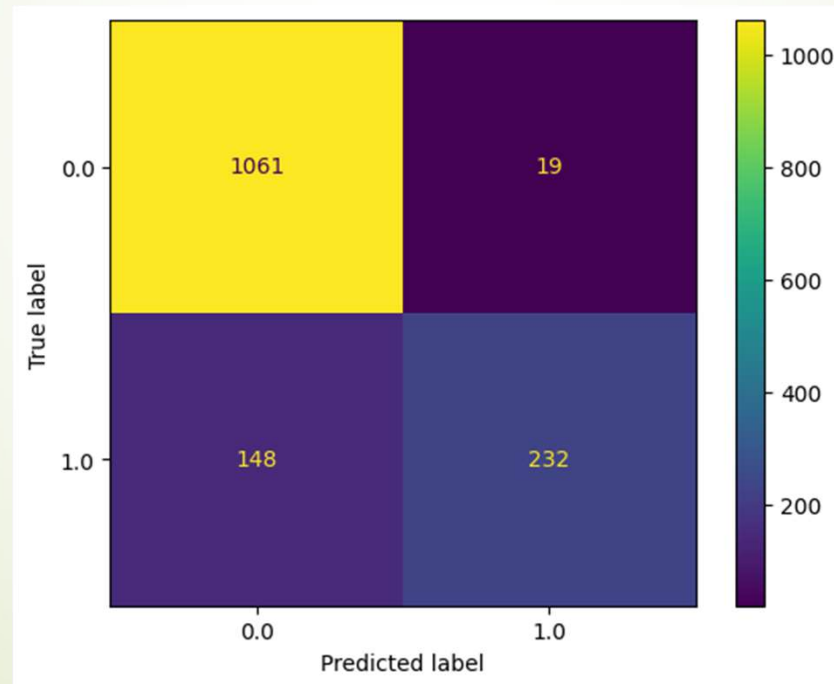


## Validation and training accuracies

	Baseline model	Model 1a	Model 2	<b>Model 3</b>
Val	88%	90%	88%	<b><u>90%</u></b>
Training	90%	80%	90%	<b><u>90%</u></b>

# Results/conclusions

- 88% accuracy compared to 73%
- 19 false negatives and 148 false positives out of 1460 predictions.
- this model can be used as a check by the radiologist





Thank you

