Convolutional Neural Network For Pneumonia Classification Using X-Ray Images

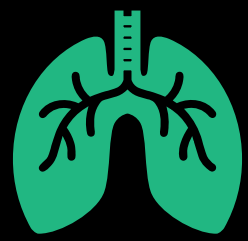
Overview

Network Goals

Network Parameters

Evaluation

Network Goals



Resize input of arbitratily sized image of chest x-ray*

Classify input images into Healthy, Bacterial or Viral Pneumonia

*images taken from kaggle.com

Network Parameters

750x500 pixel images input with one colour channel

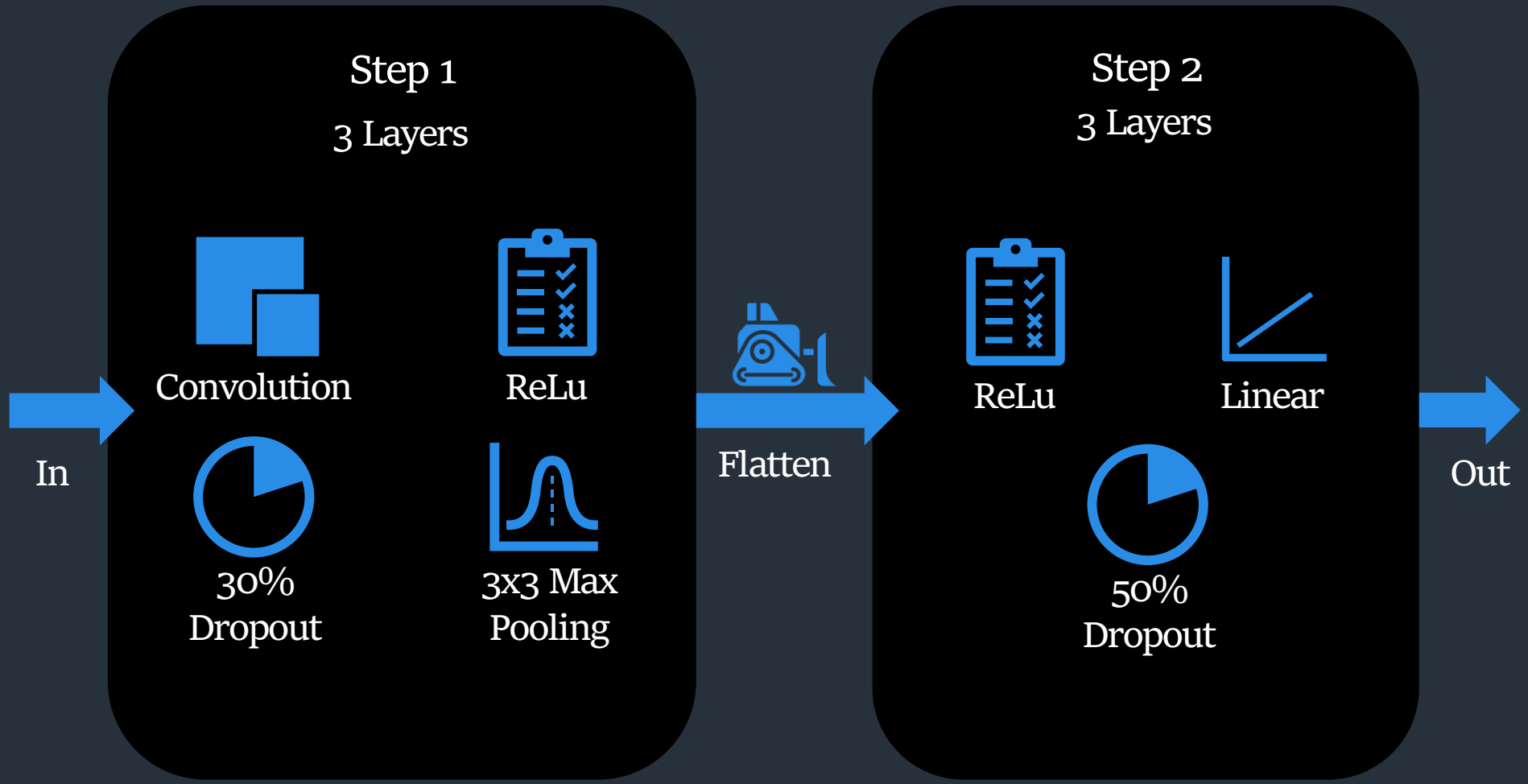
Custom PyTorch dataset class to further transform, normalize and deliver data do the dataloader

3 convolutional layers and 3 linear layers

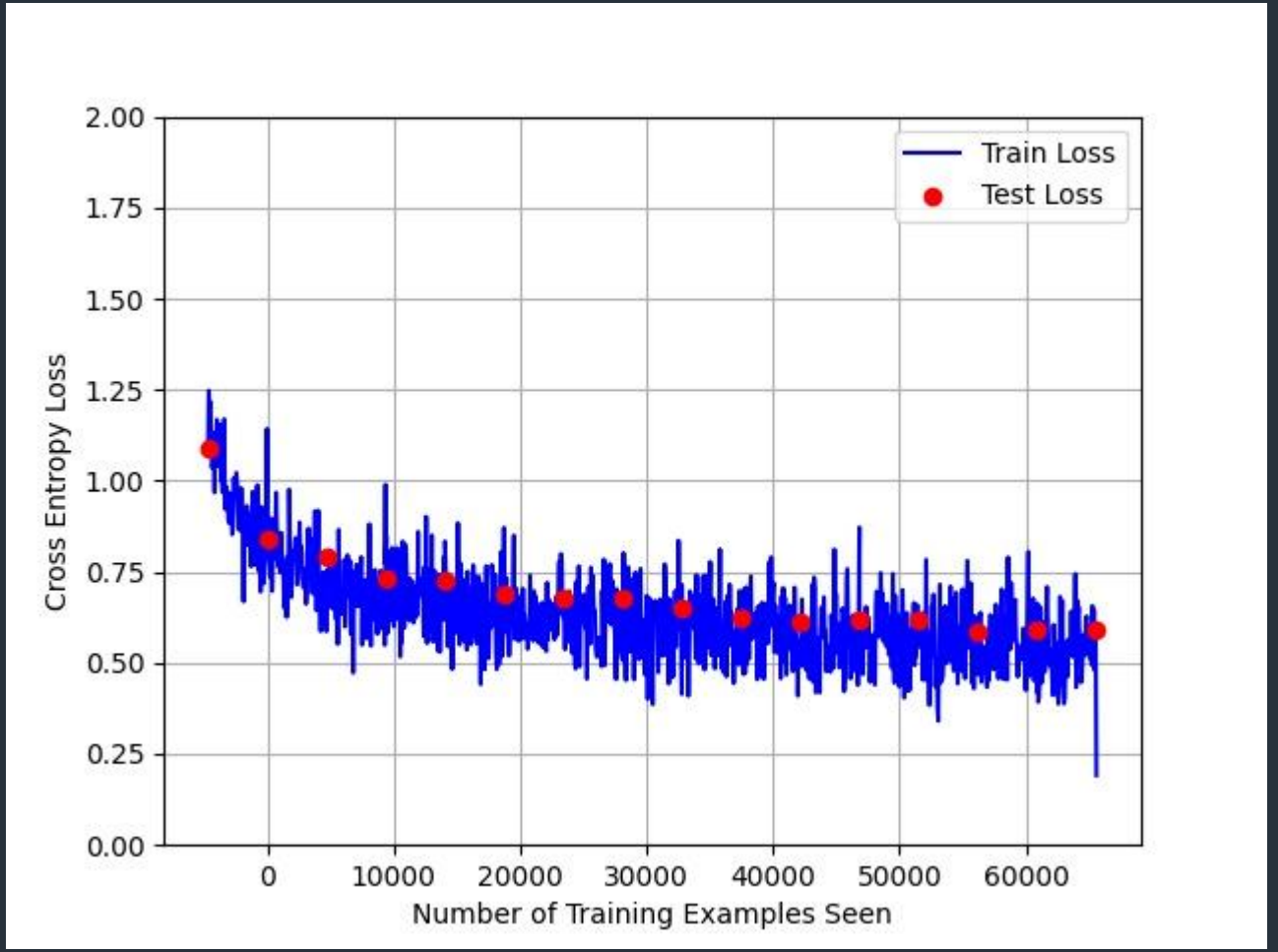
Cross-entropy loss computation

Adam algorithm optimizer

Network Layers

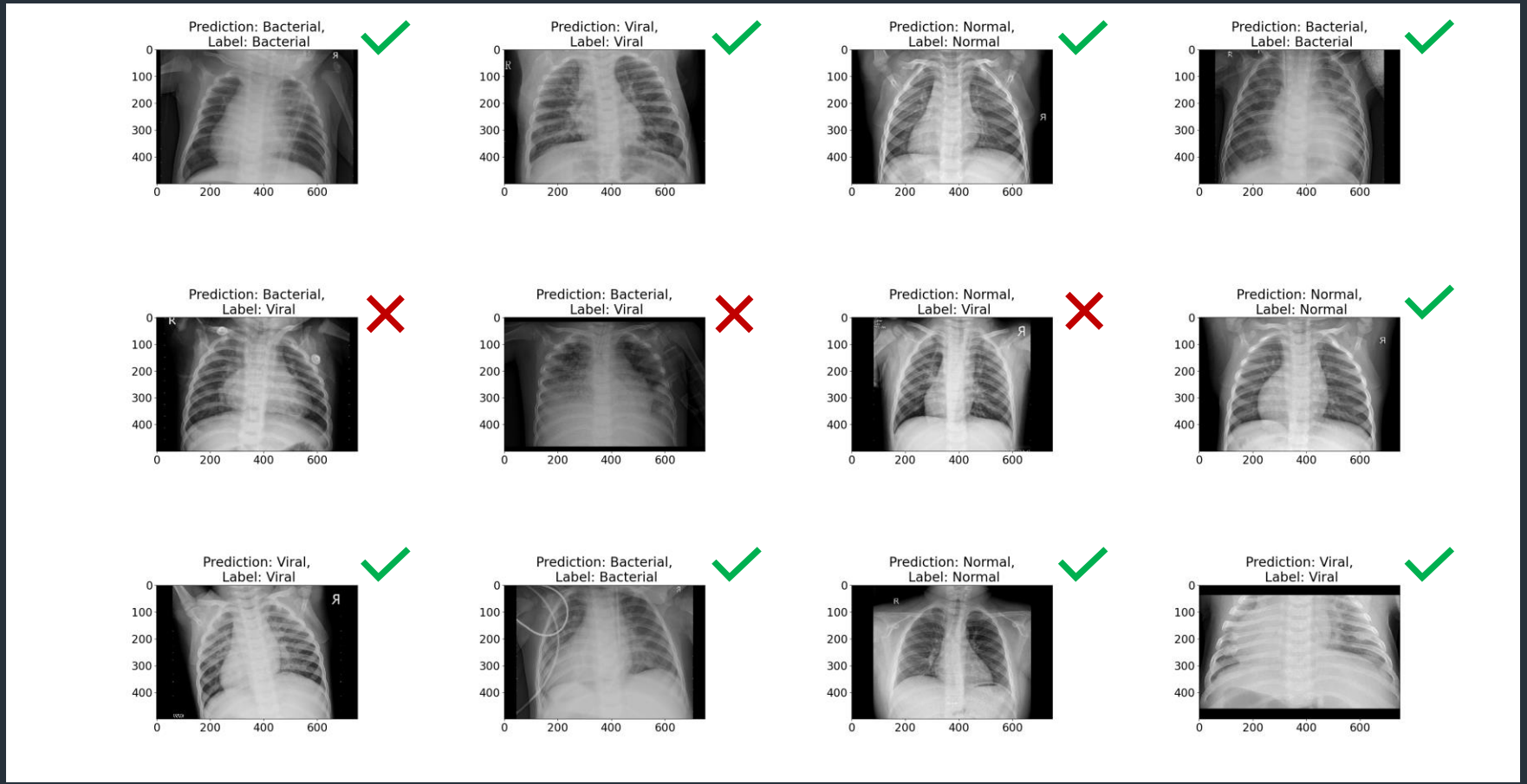


Evaluation



- 15 Epochs
- Accuracy of up to 77%

Evaluation



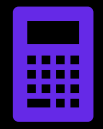
- Viral recognition most problematic

Outlook

Weighting of features

Resampling of training set

Adjustment of cost function



More computational power

Questions?


HOME
PC
CHINA
SHOP
MIND IF MY FRIEND COMES IN WITH ME?
500X750
PARAMETERS