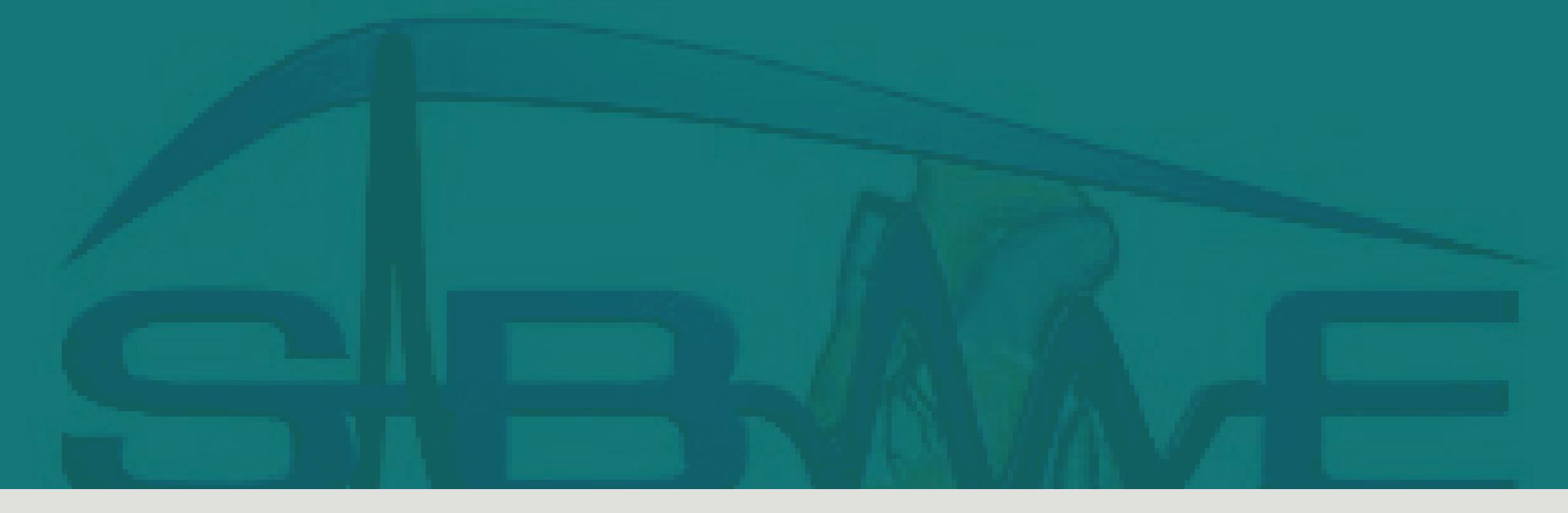


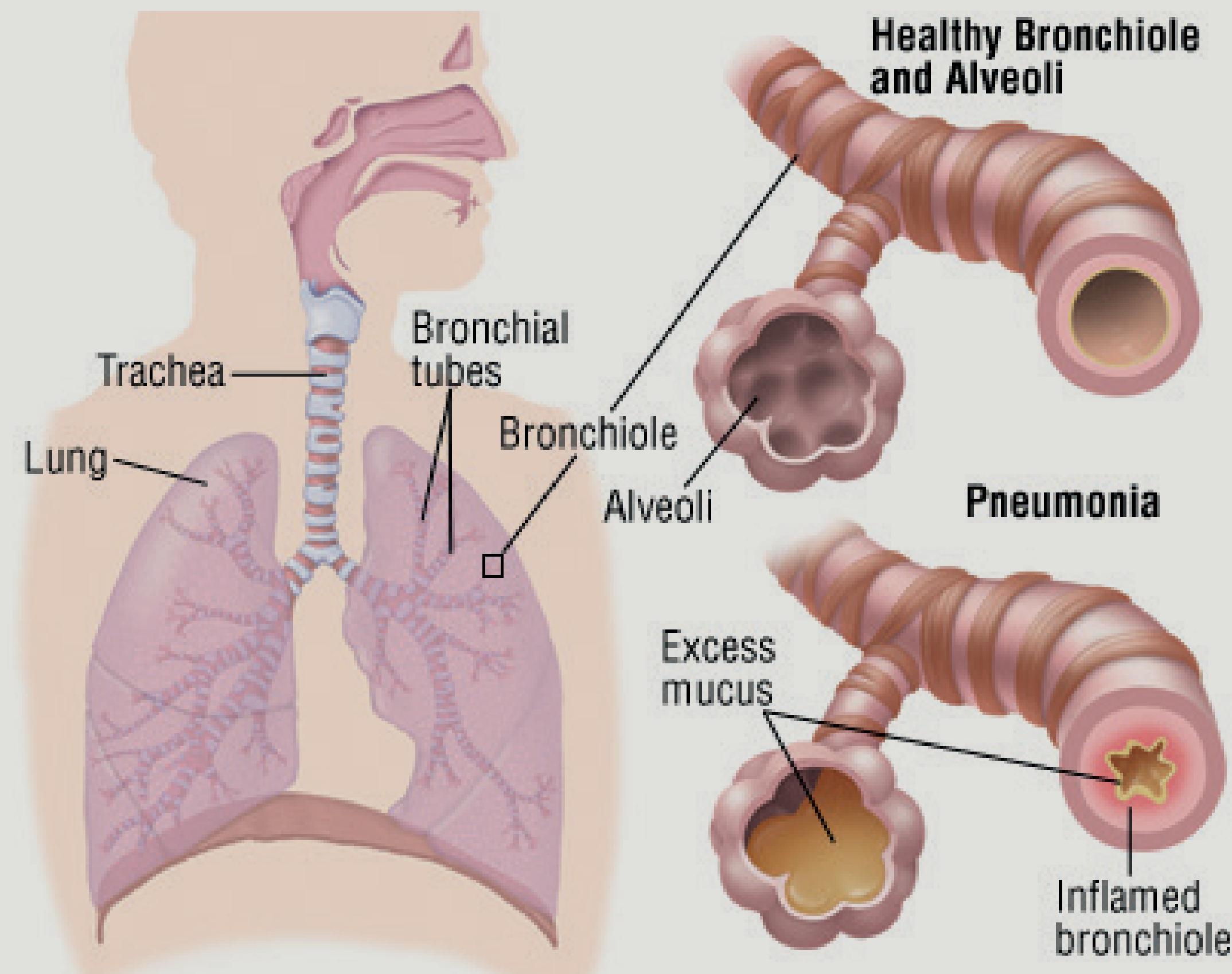
Pneumonia Detection With Transfer Learning

on Chest X-Ray Images

Team 6: Omar Abdulnasser, Mahmoud Magdy, Ahmed Kamal, Abdullah Mohamed



Problem Definition



- Pneumonia: Lung infection causing inflammation, cough, fever, and breathing difficulties
- Severity varies, posing higher risks for infants, young children, individuals over 65, and those with health issues

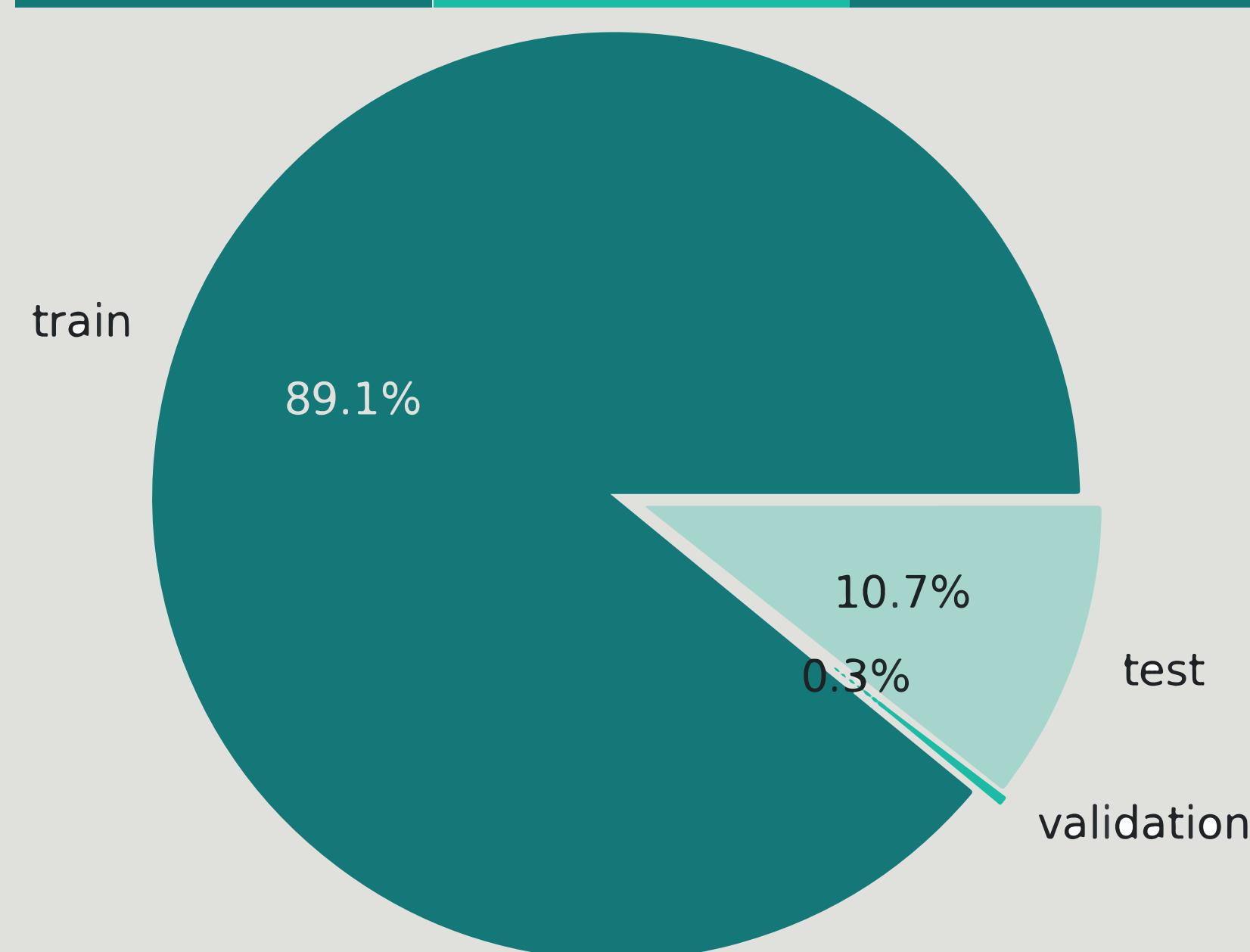
According to Mayo Clinic's Article

Objective

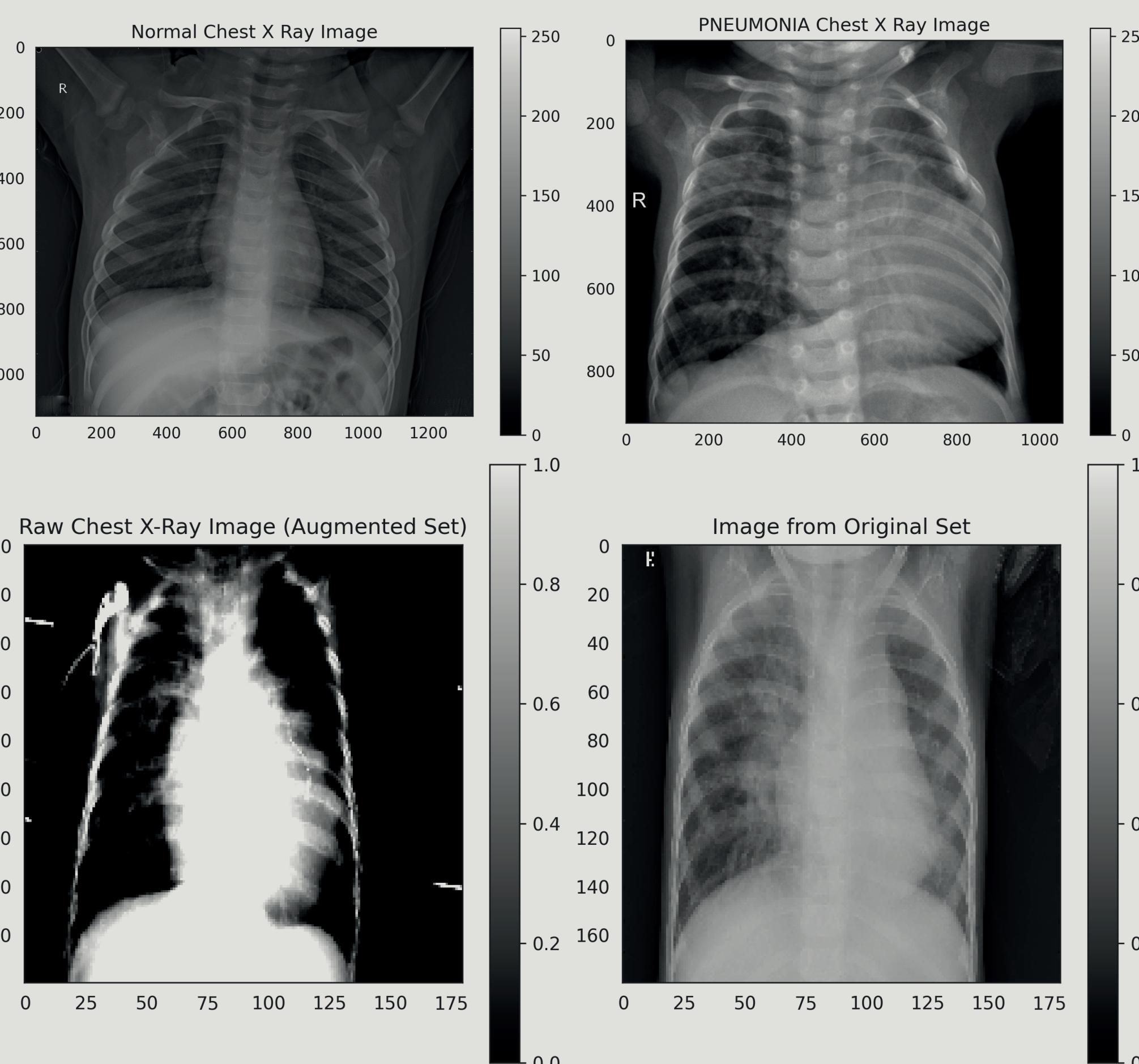
Apply Transfer Learning on Chest X-Ray Images to detect Pneumonia

Data Description

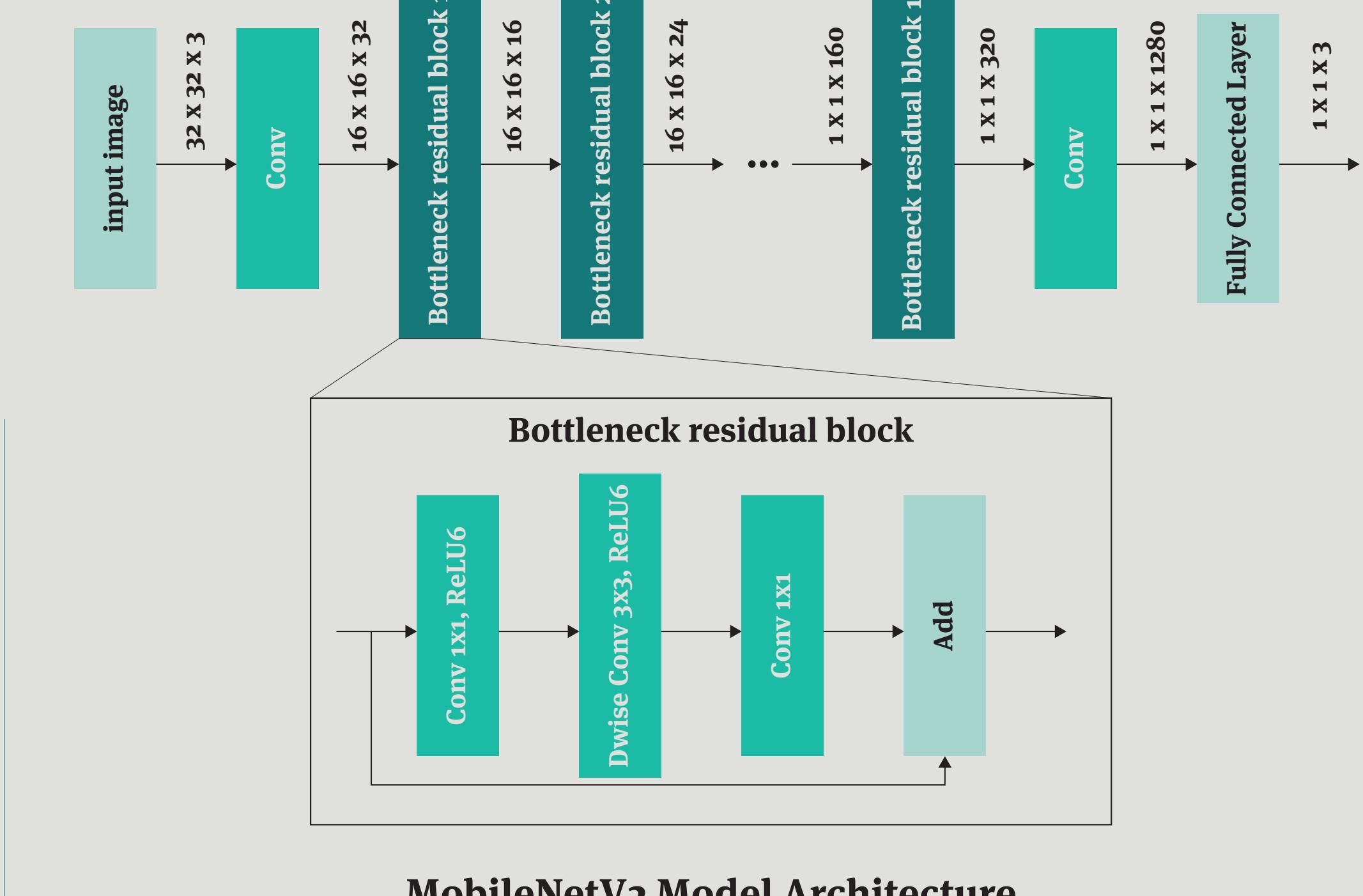
5,863 chest X-ray images (JPEG format)	Pneumonia & Normal	Train, test, val folders	Patient Age: One to Five years
Source: Guangzhou Women and Children's Medical Center	Diagnoses: Graded by two expert physicians	Verified by a third expert.	



Data Visualization

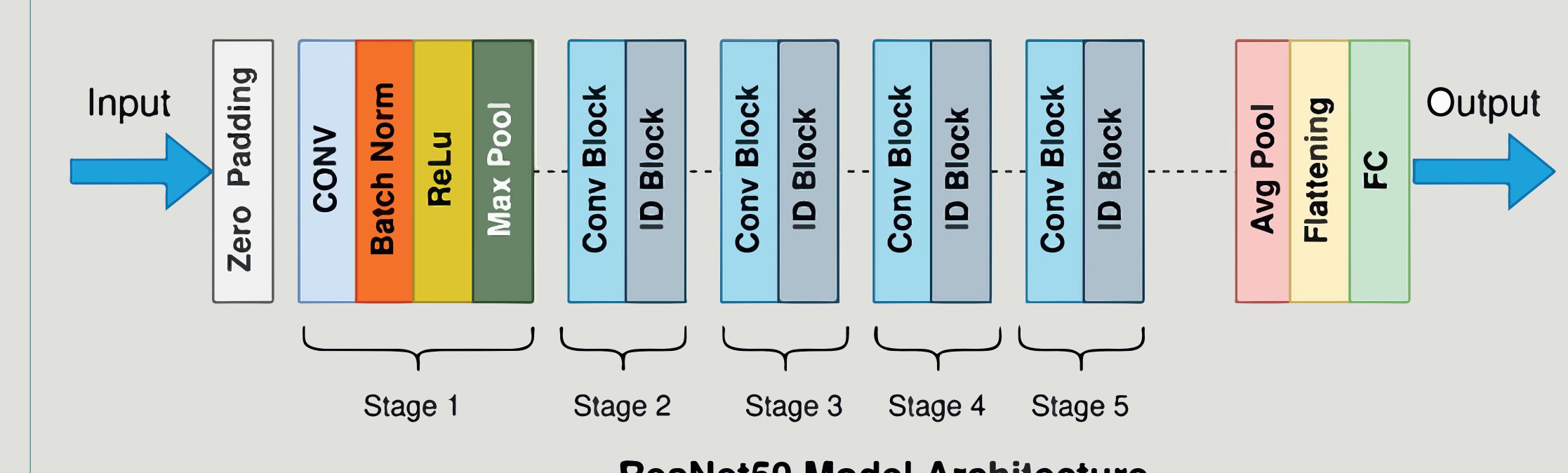


MobileNetV2 Model



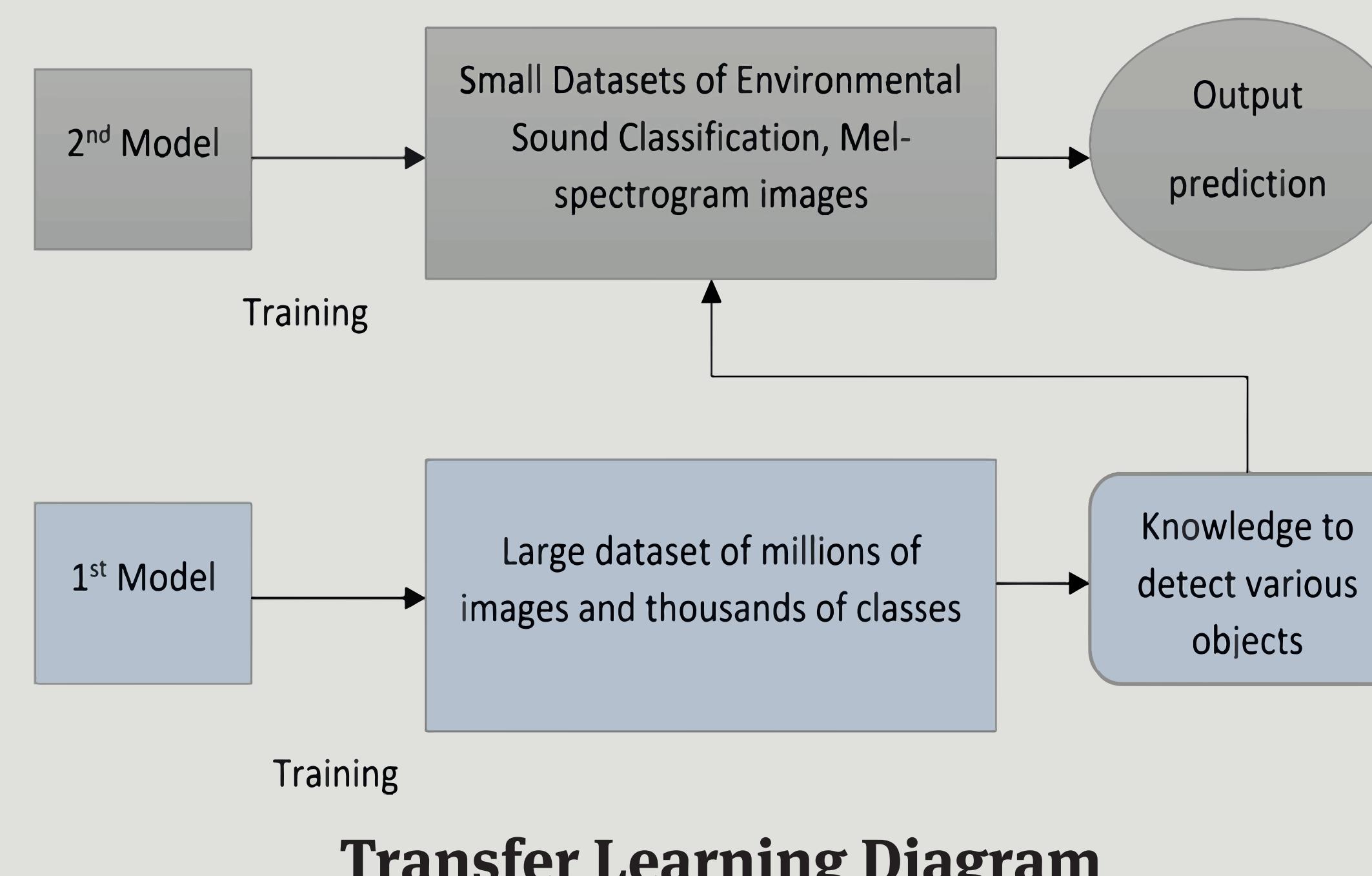
MobileNetV2 Model Architecture

ResNet Model

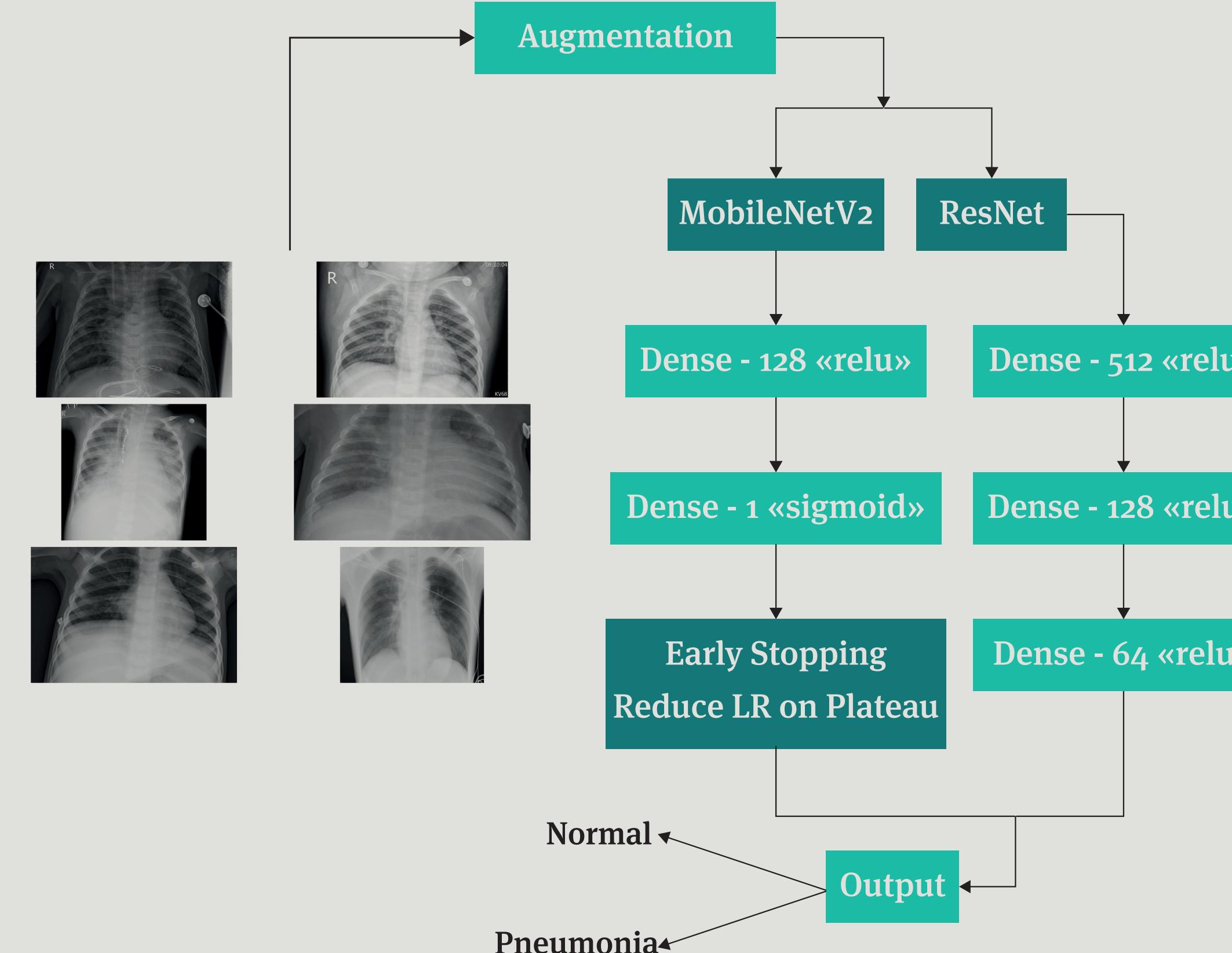


from towardsdatascience.com

Transfer Learning



Overall Process From input images To output



Evaluation & Prediction Samples

Confusion Matrix	Actual		Train Accuracy
	Positive	Negative	
MobileNetV2	198	36	87.85%
	47	343	Test Accuracy
	87.18%		
ResNet	122	112	89.88%
	20	370	Test Accuracy
	78.69%		

