The project was about classifying chest X-Ray images into 4 categories, Covid, Pneumonia, Lung Opacity and Normal.

Everything I worked on is in the final report. Both Kristin and I worked on every single part of the project. We both trained, augmented images, ensembled and evaluated the models. In fact, doing things twice this way gave us the opportunity to compare runs.
For example, she was training the models on the original data while I was training them on the augmented data or while she was training by freezing the pre-trained layers, I would try the same run without freezing.

We both wrote the report and shared the slides so we truly worked on every aspect of this project together.
Writing individual reports would literally triple the final report.

I wrote almost all the code myself. I referenced to my old projects from previews classes and used smoe code snips after modifying them. Example,

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```
(1) data_tr = tf.keras.preprocessing.image_dataset_from_directory(
    data_folder, labels='inferred',  class_names=None,
    color_mode='rgb', batch_size=batch, image_size=img_size,
seed=random_seed,
    validation_split=split, subset='training', interpolation='bilinear'
)

(2) # ModelCheckpoint callback
model_checkpoint_cb = keras.callbacks.ModelCheckpoint(filepath=abspath_curr +
'/Output/modelVGG16.h5', save_best_only=True, save_weights_only=True)

(3) # EarlyStopping callback
early_stopping_cb = keras.callbacks.EarlyStopping(patience=2,
restore_best_weights=True)

(4)v# ReduceLROnPlateau callback
reduce_lr_on_plateau_cb = keras.callbacks.ReduceLROnPlateau(factor=0.1,
                                                            patience=1)

(5)
#https://github.com/yuxiaohuang/teaching/blob/master/gwu/machine_learning_I/f
all_2020/code/utilities/p3_deep_learning/pmlm_utilities_deep.ipynb

def preprocess_pretrain(data, label):
    data_preprocessed = preprocess_input(data)

    return data_preprocessed, label
```

We have around 850 lines of code and what we copied cannot be more than a few percent of our overall program.

This is the second project I've worked with her and she is a pleasure to work with, smart, hardworking, and driven.