Welcome!

Welcome to **Image Classification with Transfer Learning in Keras**. This is a project-based course which should take less than 2 hours to finish. Before diving into the project, please take a look at the course objectives and structure:

Course Objectives

In this course, we are going to focus on **two**learning objectives:

1. How to implement transfer learning in Keras with a TensorFlow backend.
2. How to use transfer learning to solve image classification.

By the end of this course, you will be able to classification problems with the help of transfer learning in Keras**.**

Course Structure

This course is divided into 3 parts:

1. Course Overview: This introductory reading material.
2. Image Classification with Transfer Learning in Keras: This is the hands on project that we will work on in Rhyme.
3. Graded Quiz: This is the final assignment that you need to pass in order to finish the course successfully.

Project Structure

The hands on project on Image Classification with Transfer Learning in Keras is divided into following tasks:

Task 1: Introduction and Importing Libraries

* Understanding the problem.
* Introduction to the Rhyme interface.
* Importing Libraries and Helper functions.

Task 2: Oxford-IIIT Pet Dataset

* Downloading the Pet dataset.
* Class and Index Maps.
* Extract relevant annotations.

Task 3: Get Random Batch

* Adding functionality to create a random batch of examples and labels.
* Image pre-processing with Keras.
* Displaying a batch of examples.

Task 4: Create Model

* Downloading the MobileNet v2 architecture and weights.
* Creating a new model with MobileNet v2 and a new fully connected top layer.

Task 5: Model Training

* Creating a data generator function.
* Calculating training and validation steps
* Training the model to fit on the data.

Task 6: Predictions

* Getting predictions on a test batch.
* Displaying the test batch along with predictions.