## What is knowledge distillation

As presented <u>in this discussion thread on kaggle</u>, knowledge distillation is defined as *simply trains another ir* (student) will made predictions on the images, but then, the losses will be a function of its own loss as well a

This approach allow to compress an ensemble into one model and by then reduce the inference time, or, if to the top solutions of the Plant Pathology 2020 competition, an other solution with computer vision and leaf, so

I let you go to to this source mentioned aboved to understand how it could potentially works. It does not seer feature to detect in the images.

There is off course, no starting material to do it in R. Thanksfully there is a code example on the <u>website of k</u> problem: **model are not inheritable in R**. There is example of inheritance with a R6 for callback, <u>like here</u>, following the approach in this <u>guide for eager executation in keras with R</u>. I took other code from <u>the tensorfle</u>

The code is quite hard to understand at first glance. The reason is, everything is executed in a single fo around to collect metrics during training. If you want to understand the code just remove it from the loop and execution, so instead of make\_iterator\_one\_shot() and iterator\_get\_next(), here we loop over the train\_gene

```
library(tidyverse)
library(tensorflow)
tf$executing_eagerly()
[1] TRUE
tensorflow::tf_version()
[1] '2.3'
```

Here I flex with my own version of keras. Basically, it is a fork with application wrapper for the efficient net.

Disclaimer: I did not write the code for the really handy applications wrappers. It came from this comn

```
devtools::install github("Cdk29/keras", dependencies = FALSE)
```

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