Hands on hyperparameter tuning with Keras Tuner

Deze afbeelding voegt niets toe maar ik vind hem gewoon leuk <3



Hyperparameters can be numerous in neural networks. A good hyperparameter combination can greatly increase model performance.

**Hyperparameter tuning with Keras Tuner**

A tuner is defined, which determines which hyperparameter combinations should be tested. The search function performs the iteration loop, which evaluates a certain number of hyperparameter combinations. Evaluation is performed by computing the model’s accuracy on a validation set.

The best hyperparameter combination can be tested on a test set.

**Search space definition**

This defines which hyperparameter need to be optimized and in what range.

To put the whole hyperparameter search space together and perform hyperparameter tuning, Keras Tuners uses ‘HyperModel’ instances. These are reusable class objects introduced with the library.

**Choose the tuner**

Hyperband is an optimized version of random search using early stopping to speed up the hyperparameter tuning process. The idea is to fit a large number of models for a small number of epochs and only continue training for the models achieving the highest accuracy on the validation set.

[How to Perform Hyperparameter Tuning with Keras Tuner | Sicara](https://www.sicara.ai/blog/hyperparameter-tuning-keras-tuner)

Introduction to Keras Tuner

Hyperparameters have two types, Model hyperparameters and Algorithm hyperparamters. The first one influences the number and width of hidden layers. The second one influences the speed and quality of the learning algorithm such as the learning rate.

[Introduction to the Keras Tuner  |  TensorFlow Core](https://www.tensorflow.org/tutorials/keras/keras_tuner)

Ik denk dat we alleen naar de Algorithm hyperparamters kijken?