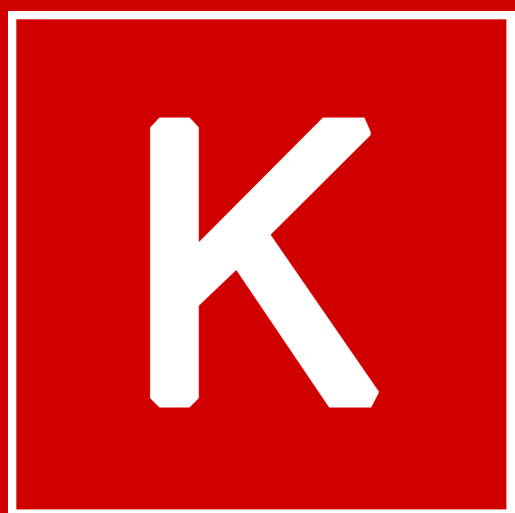


keras

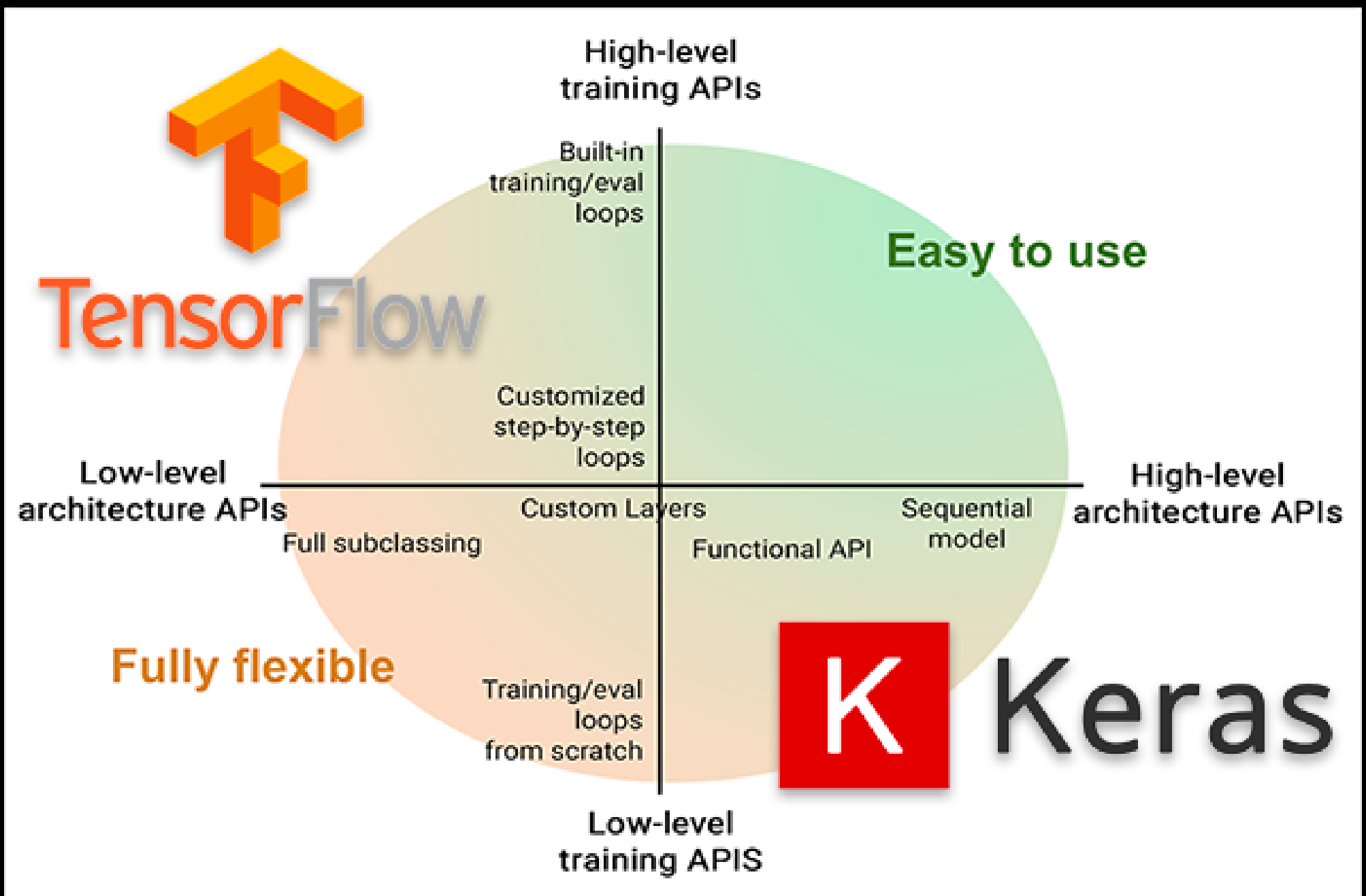
vs



tf.keras

RELATIONSHIP BETWEEN KERAS AND TENSORFLOW

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RELATIONSHIP BETWEEN KERAS AND TENSORFLOW

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- Keras was originally created and developed by Google AI Developer/Researcher, Francois Chollet.
- Francois committed and released the first version of Keras to his GitHub on March 27th, 2015.
- Initially, Francois developed Keras to facilitate his own research and experiments.
- However, with the explosion of deep learning popularity, many developers, programmers, and machine learning practitioners flocked to Keras due to its easy-to-use API.
- Back then, there weren't too many deep learning libraries available — the popular ones included Torch, Theano, and Caffe.

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- The problem with these libraries was that it was like trying to write assembly/C++ to perform your experiments — tedious, time-consuming, and inefficient.
- Keras, on the other hand, was extremely easy to use, making it possible for researchers and developers to iterate on their experiments faster.
- In order to train your own custom neural networks, Keras required a backend.

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- Originally, Keras' default backend was Theano and was the default until v1.1.0.
- At the same time, Google had released TensorFlow, a symbolic math library used for machine learning and training neural networks.
- Once TensorFlow became the default backend for Keras, by definition, both TensorFlow and Keras usage grew together — you could not have Keras without TensorFlow, and if you installed Keras on your system, you were also installing TensorFlow.

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- The `tf.keras` submodule was introduced in TensorFlow v1.10.0, the first step in integrating Keras directly within the TensorFlow package itself.
- However, that's now changing — when Google announced TensorFlow 2.0 in June 2019, they declared that Keras is now the official high-level API of TensorFlow for quick and easy model design and training.

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- **With the release of Keras 2.3.0, Francois has stated that**
 - **This is the first release of Keras that brings the keras package in sync with tf.keras**
 - **It is the final release of Keras that will support multiple backends (i.e., Theano, CNTK, etc.).**
 - **And most importantly, going forward all deep learning practitioners should switch their code to TensorFlow 2.0 and the tf.keras package.**
 - **The original keras package will still receive bug fixes, but moving forward, you should be using tf.keras.**

RESOURCES

CLICK THE LINKS TO GET RESOURCES

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- [Keras vs. tf.keras](#)
- [Keras vs. tf.kerasAsk Question](#)
- [Keras Vs Tensorflow](#)
- [Keras vs TensorFlow – Which one should you learn?](#)