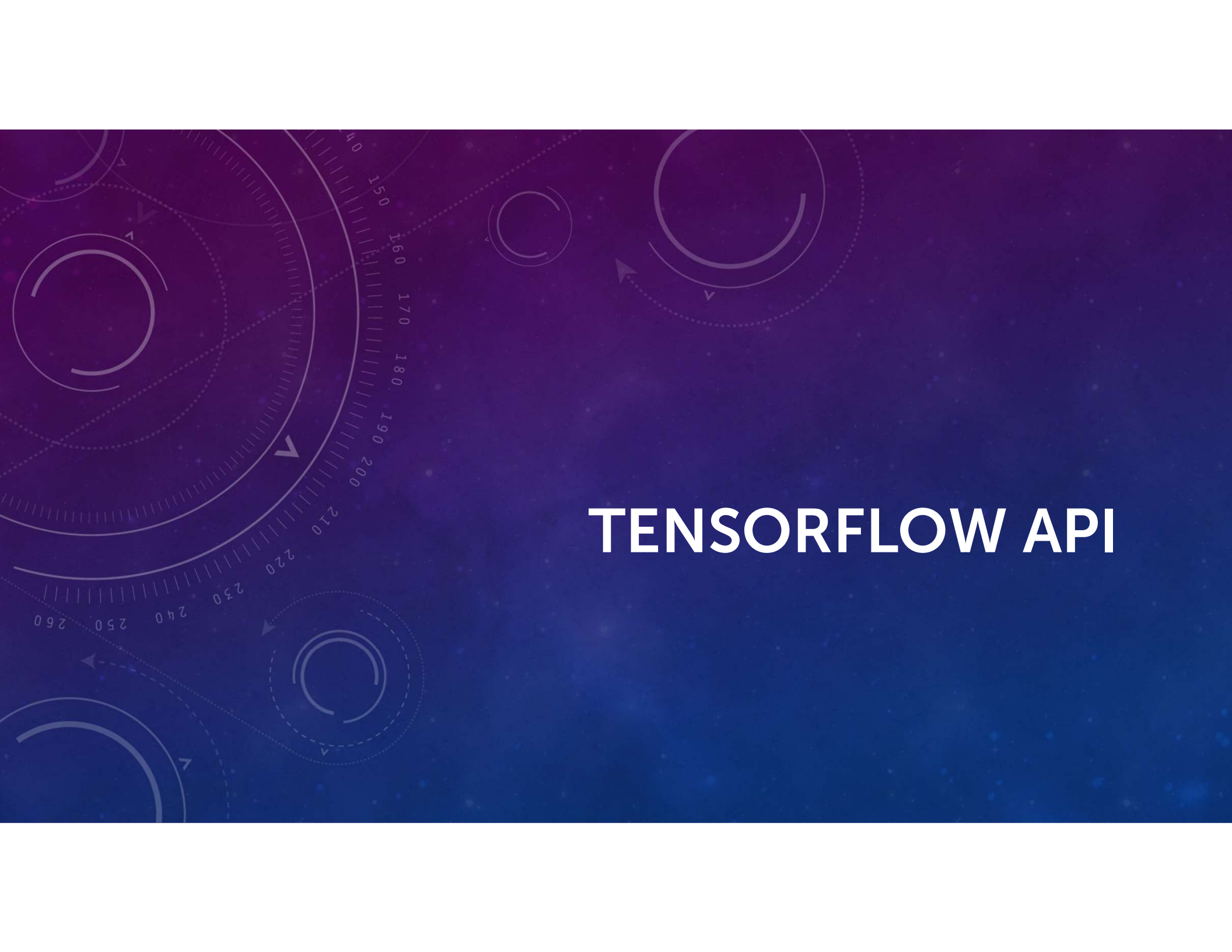


The background is a gradient of deep purple and blue, speckled with small white dots. On the left side, there are several concentric circular patterns and a large arc with a scale from 140 to 260. The scale is marked with numbers every 10 units. There are also smaller circular elements with arrows indicating direction.

TENSORFLOW API

WHAT IS TENSORFLOW?

- TensorFlow is a free and open-source software library for machine learning and artificial intelligence. It can be used across a range of tasks but has a particular focus on training and inference of deep neural networks.
- Tensorflow is a symbolic math library based on dataflow and differentiable programming. It is used for both research and production at Google.
- TensorFlow was developed by the Google Brain team for internal Google use. It was released under the Apache License 2.0 in 2015.

INSTALLING TENSORFLOW

- <https://www.tensorflow.org/install>
- Install TensorFlow with Python's pip package manager.
 `pip install tensorflow`

KERAS API

- Keras is a deep learning API written in Python, running on top of the machine learning platform TensorFlow. It was developed with a focus on enabling fast experimentation.
- Keras is
 - Simple -- but not simplistic. Keras reduces developer cognitive load to free you to focus on the parts of the problem that really matter.
 - Flexible -- Keras adopts the principle of progressive disclosure of complexity: simple workflows should be quick and easy, while arbitrarily advanced workflows should be possible via a clear path that builds upon what you've already learned.
 - Powerful -- Keras provides industry-strength performance and scalability: it is used by organizations and companies including NASA, YouTube, or Waymo.

KERAS & TENSORFLOW 2

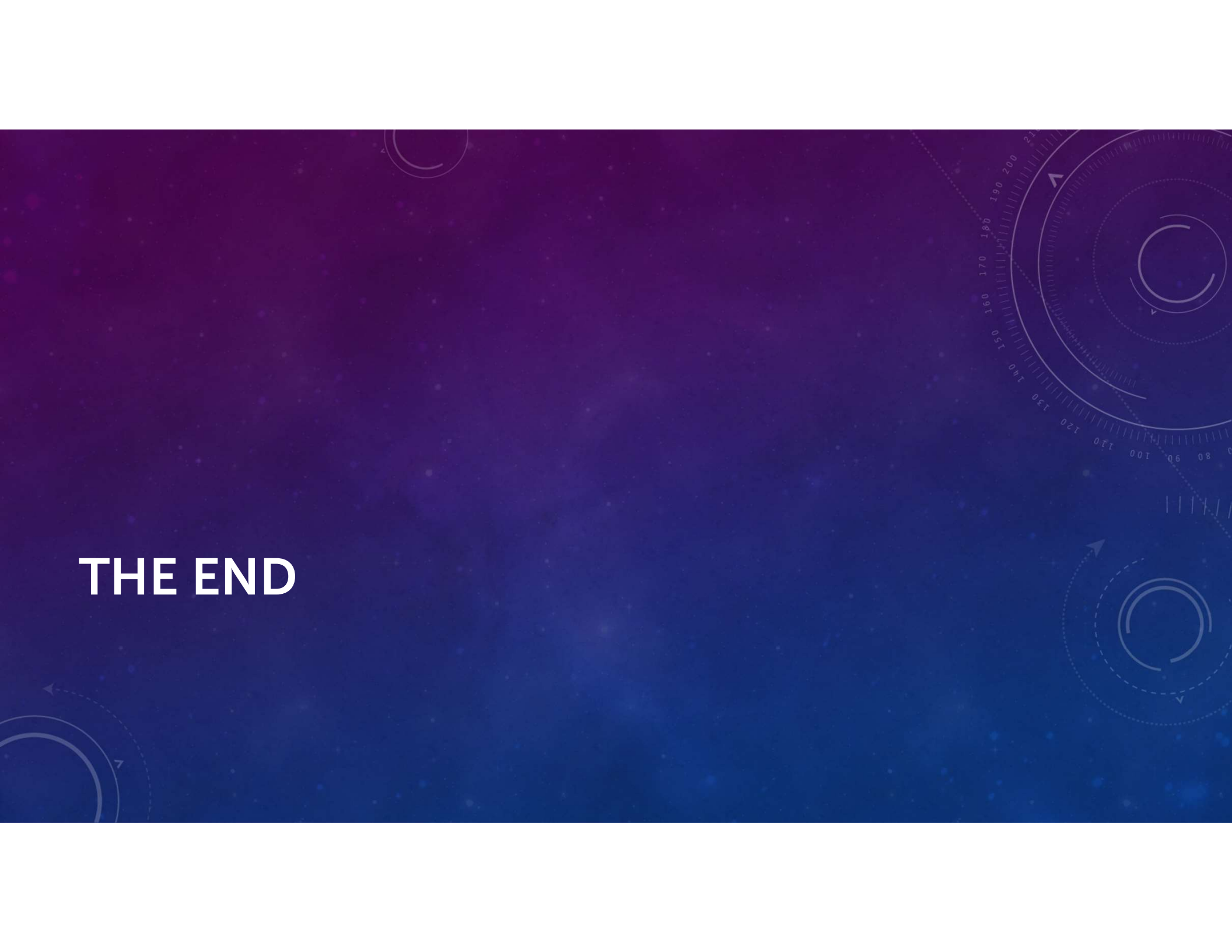
- TensorFlow 2 is an end-to-end, open-source machine learning platform. You can think of it as an infrastructure layer for differentiable programming. It combines four key abilities:
 - Efficiently executing low-level tensor operations on CPU, GPU, or TPU.
 - Computing the gradient of arbitrary differentiable expressions.
 - Scaling computation to many devices, such as clusters of hundreds of GPUs.
 - Exporting programs ("graphs") to external runtimes such as servers, browsers, mobile and embedded devices.

KERAS & TENSORFLOW 2

- Keras is the high-level API of TensorFlow 2: an approachable, highly-productive interface for solving machine learning problems, with a focus on modern deep learning. It provides essential abstractions and building blocks for developing and shipping machine learning solutions with high iteration velocity.
- Keras empowers engineers and researchers to take full advantage of the scalability and cross-platform capabilities of TensorFlow 2: you can run Keras on TPU or on large clusters of GPUs, and you can export your Keras models to run in the browser or on a mobile device.

TRYING OUT TENSORFLOW

ACTIVITY



THE END