How to write a custom loss function in Tensorflow?

I am new to `tensorflow` . I want to write my own custom loss function. Is there any tutorial about this? For example, the hinge loss or a sum_of_square_loss(though this is already in tf)? Can I do it directly in python or I have to write the cpp code?

tensorflow

edited Jan 19 '16 at 11:56

asked Jan 19 '16 at 11:44
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2 Please read How to Ask and take the tour. – Guy Coder Jan 19 '16 at 11:46

4 Answers

Take a look at Adding a New Op

It may not be exactly what you need however it should give you enough to get started.

Prerequisites:

- Some familiarity with C++.
- Must have downloaded TensorFlow source, and be able to build it.

If you'd like to incorporate an operation that isn't covered by the existing library, you can create a custom Op. To incorporate your custom Op, you'll need to:

- Register the new Op in a C++ file. The Op registration is independent of the implementation, and describes the semantics of how the Op is invoked. For example, it defines the Op name, and specifies its inputs and outputs.
- Implement the Op in C++. This implementation is called a "kernel", and there can be multiple kernels for different architectures (e.g. CPUs, GPUs) or input / output types.
- Create a Python wrapper. This wrapper is the public API to create the Op. A default wrapper is generated from the Op registration, which can be used directly or added to.
- Optionally, write a function to compute gradients for the Op.
- Optionally, write a function that describes the input and output shapes for the Op. This allows shape inference to work with your Op.
- Test the Op, typically in Python. If you define gradients, you can verify them with the Python GradientChecker.

edited Apr 16 at 17:24
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