Abstract

Extending PyTorch from Python directly

In the past year, the PyTorch team has been working on improving the extensibility of the library by end users from Python. In particular, we focus here on allowing user to do things that are not possible natively and build custom components to solve the particular problem they are interested in.

In this note we focus on the following components in particular:

- Torch Function: at the level of PyTorch Python public API.
- Torch Dispatch: at the level of PyTorch C++ API.
- Torch Library: at the level of PyTorch C++ API.
- Custom mode registration.

The Torch Function and Dispatch system can be used in two ways:

- As a Tensor subclass in Python with special methods.
- As a Mode that is enabled via a context manager. Within this context, all functions will call back into the mode's special methods.