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Introduction to PyTorch

Python is well known for its ecosystem of scientific computing packages. Nevertheless, the use cases arising from machine learning (including deep learning) required a number of features that were not widely used and supported by those tools. Those include, first and foremost, support for various hardware accelerators like GPUs, as well as automatic differentiation, which gives a way to compute gradients of any differentiable functions, without any human supervision.

In this talk, I'll showcase PyTorch, which is one of the most popular libraries used to conduct research in machine learning. We'll start from the very basics, explaining how to specify the model structure, go through retrieving gradients, and cover some best practices for structuring the research code. If the time allows, we might also get to more advanced features like performance profiling, multiprocessing/distributed computing, or just-in-time compilation.