Chpt1 Introducing deep learning and the Pytorch library

Augest 3, 2021

Deep learning deals with training mathematical entities named *deep neural networks* by presenting instructive examples.

1.1 Deep learning revolution

Features are transformations on input data that facilitate a downstream algorithm to produce correct outcomes on new data. Deep learning, on the other hand, deals with finding such representations automatically, from raw data, in order to successfully perform a task. Filters would be refined during training by iteratively looking at pairs of examples and target labels. The ability of a nn to ingest data and extract useful representations on the basis of examples is what makes deep leraning so powerful.

Get a glimpse of what we need to excute successful deep learning:

1. Need a way to ingest whatever data we have at hand
2. Somehow need to define the deep learning machine
3. Must have an automated way, *training*, to obtain useful representations and make the machine produce desired outputs