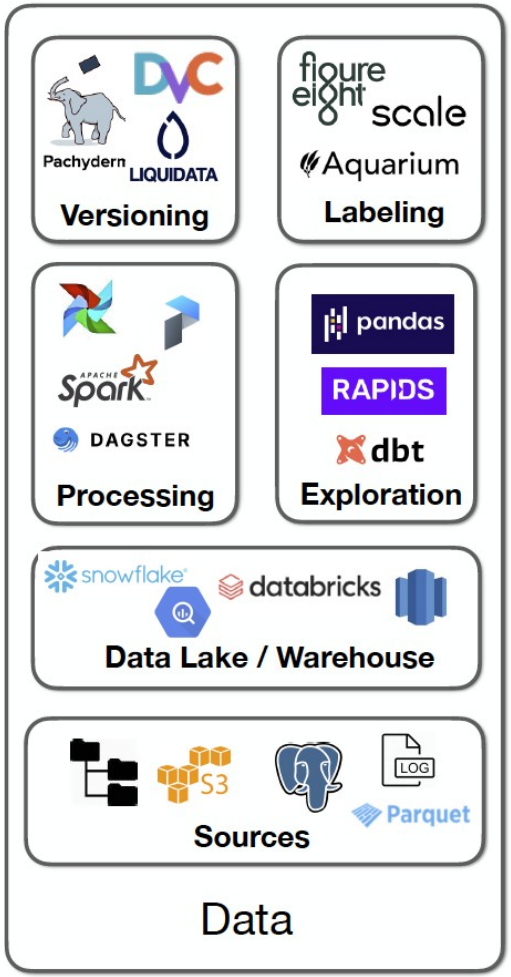
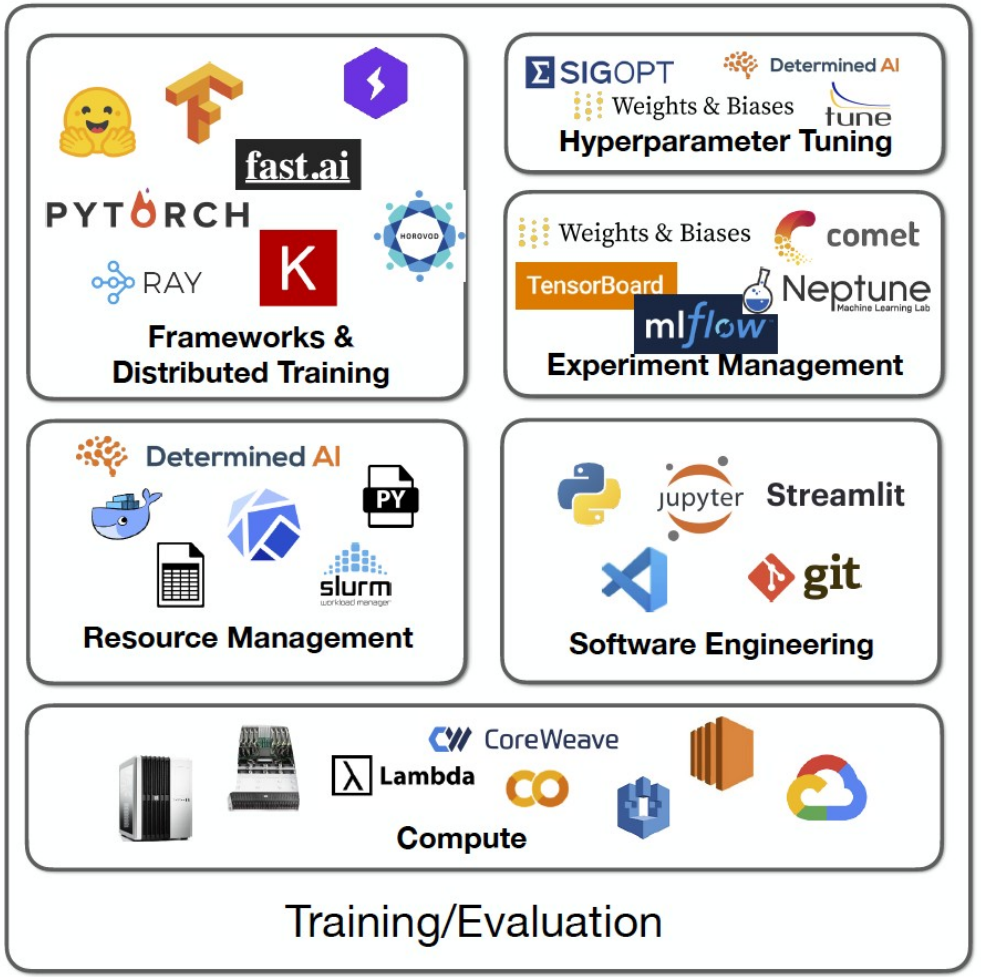
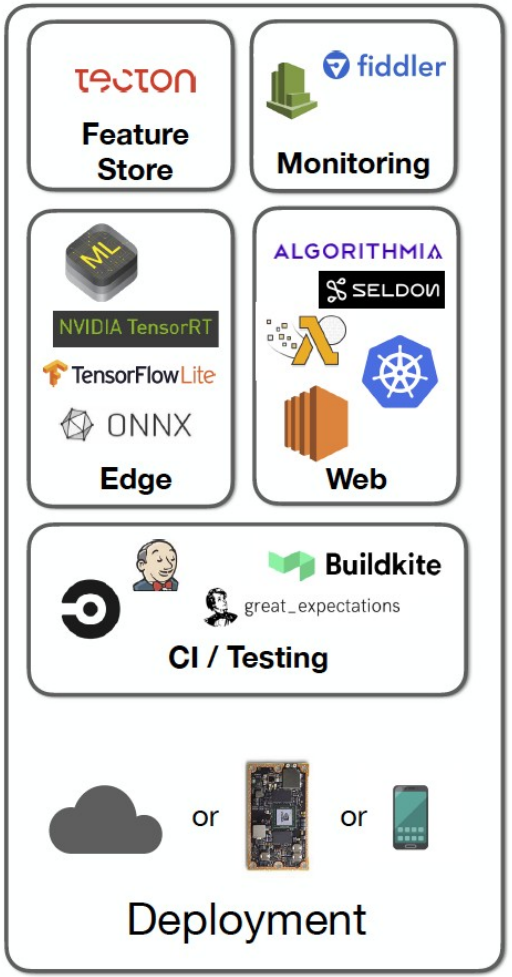
Profiling AI Tools on HPC Systems







Profiling Tools

“From outside”

- Perf
- callgrind
- (n)gprof
- Nvidia Nsight

“From inside”

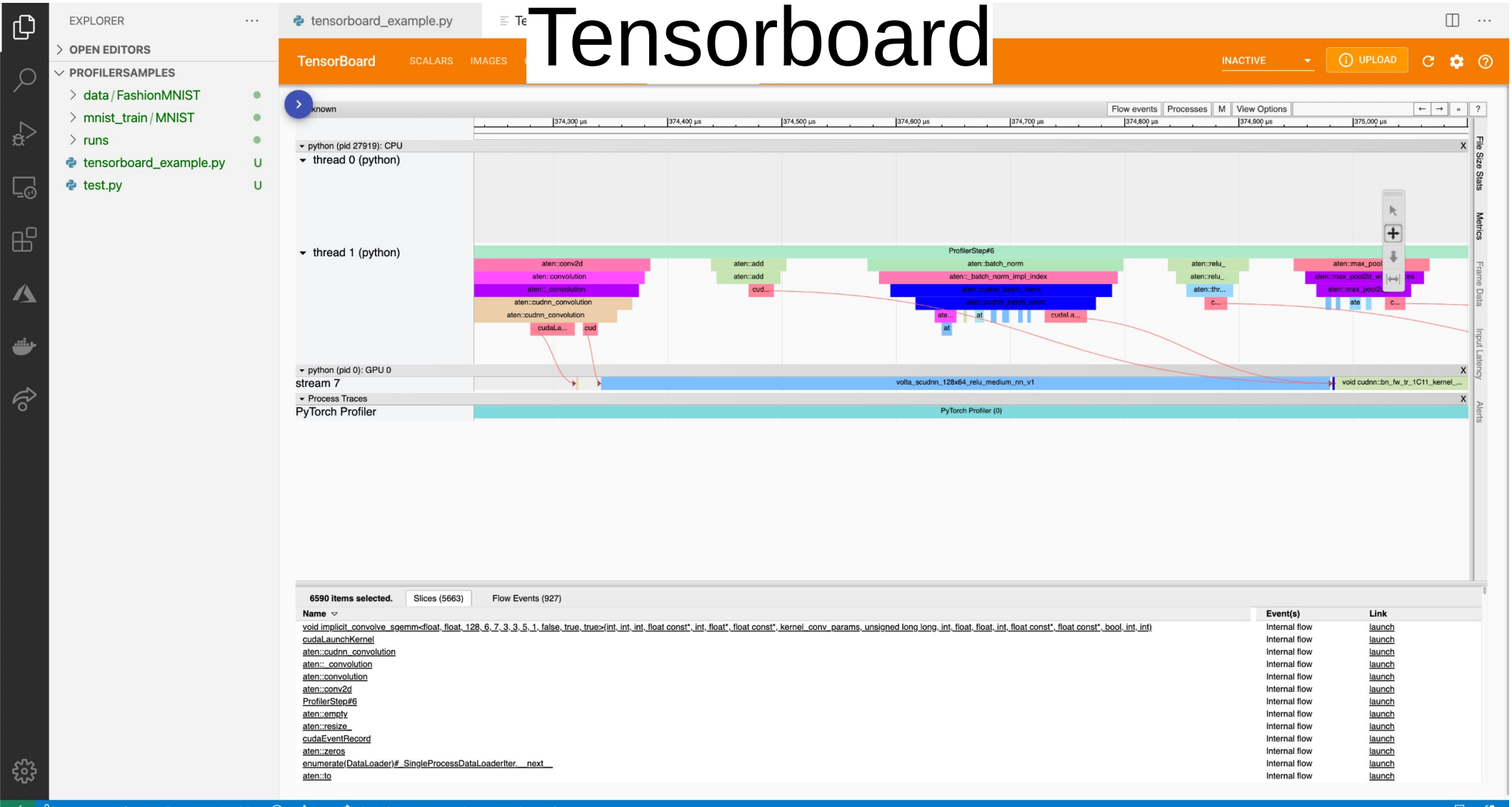
- cProfile or line_profiler
- Torch Profiler
- Nvidia DLProf
- Torchskript+likwid?

The Pytorch Profiler

```
prof = torch.profiler.profile(
    schedule=torch.profiler.schedule(wait=2,active=1,repeat=3)
    on_trace_ready=torch.profiler.tensorboard_trace_handler('./profiler/'),
    profile_memory=True,
    record_shapes=True,
    ...,)

prof.start()

for inputs, labels in ...:
    TRAIN(inputs, labels)
    prof.step()

prof.stop()
```

Tensorboard