DagsHub Data Streaming Client

SOTA Meetup, October 2022

WE'RE REVOLUTIONIZING THE WAY DATA SCIENTISTS INTERACT WITH UNSTRUCTURED DATA

October 23, 2022

DagsHub

Outline

1. What's the Challenge?
2. What's the Solution?

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Contextualizing a Data-Heavy Problem

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Why does that matter? Every new paradigm needs to adapt to a default, mostly set-in-stone standard – oftentimes, that's done hastily and hackily.

Contextualizing a Data-Heavy Problem

Let's take a look at a traditional training pipeline.
URL: `https://colab.research.google.com/drive/1TTsAwism1t0PoTpvKTKkuWywiCxxK0ed/`

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b. Dependency Hell.
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c. Data takes too long too load.
   Solution? **Let's talk about it.**

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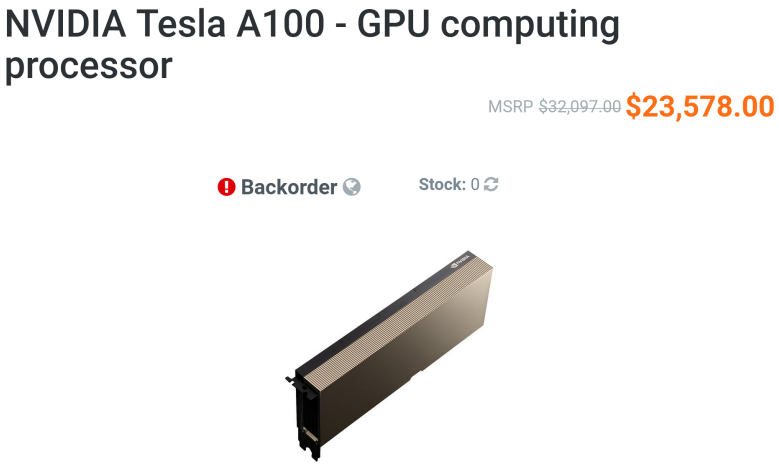
- Buying one NVIDIA Tesla A100 costs $\$23,578$. Also, there's 0 stock.



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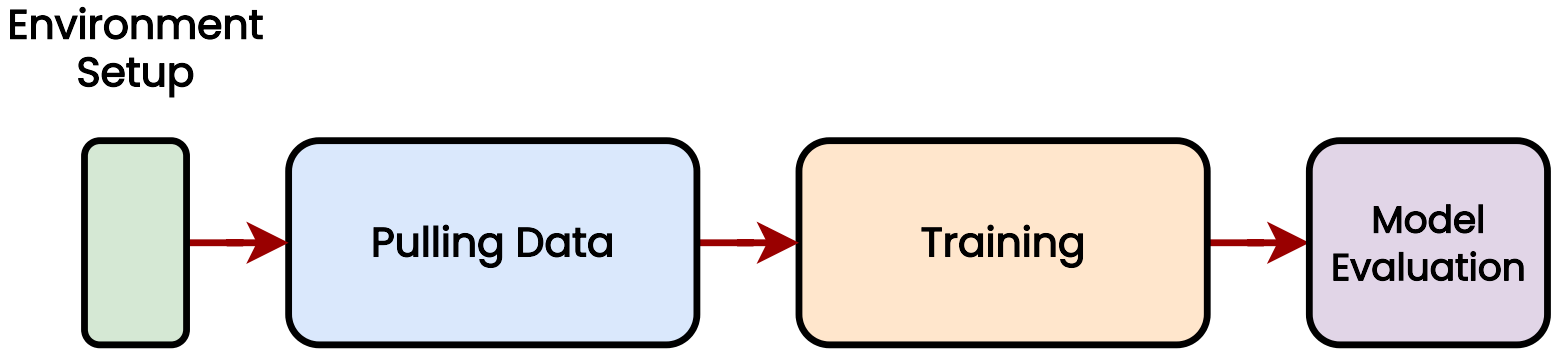
What if, instead of pulling and training sequentially, we **merge** the processes?



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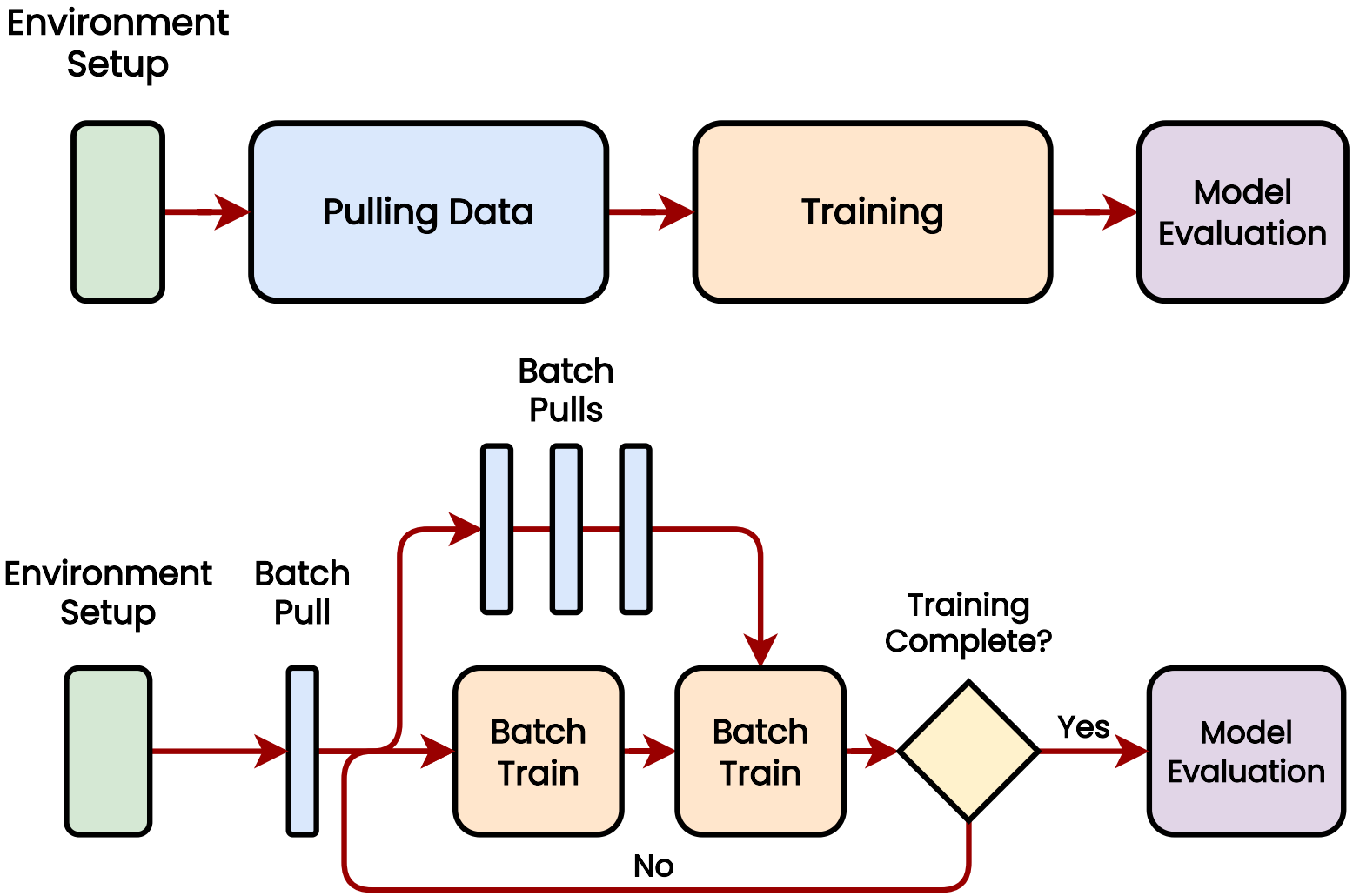

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- **Keeping it user friendly!**

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b. A broad monkeypatched solution for universal remote data interfacing.

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Using FUSE, we can build our own filesystem to handle file interfacing.

Then, using DagsHub's Web APIs, we can fetch files within the backend and pipe it as if it was locally present all the while!

Demonstrating the Training Pipeline

All put together, let's check out the new training pipeline!
URL: `https://colab.research.google.com/drive/1vTaZfOzchKxeC6nNVZvHxjFqWmXXmrJ6/`

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Effectively, we take out the filesystem manipulation, and extrapolate that MVP to a single script.

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Effectively, we take out the filesystem manipulation, and extrapolate that MVP to a single script.

Here's an example: `https://colab.research.google.com/drive/1eKt2TIXj9wgFhA0Nu3G6ZW5IDC_9fdFU/`

Note: Monkeypatching currently has the widest range of support. When in doubt, **use monkeypatching!**

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Documentation dropping soon!

Use Cases

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(use cases proportional to imagination)

Thank you!

Have an awesome rest of your day!

Slides: `https://cs.purdue.edu/homes/jsetpal/dsc.pdf`