iterative

Making MLOps Uncool Again

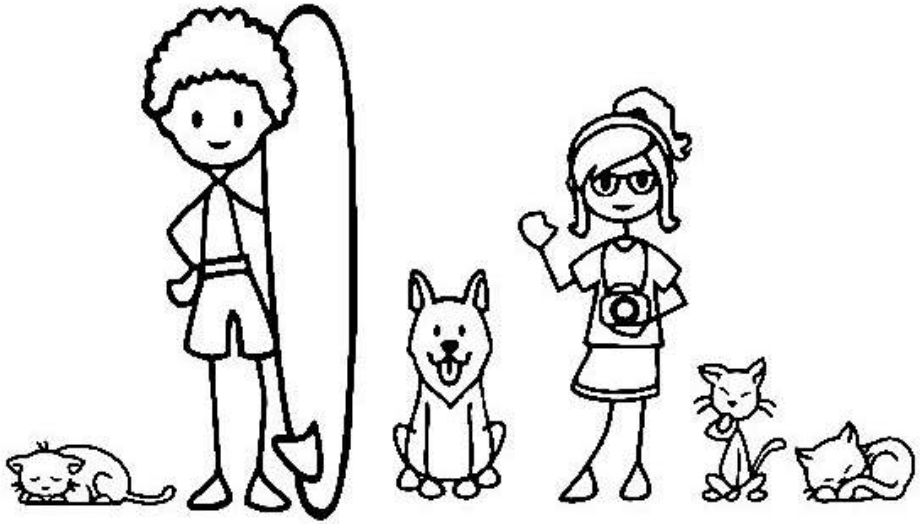
David de la Iglesia

Software Engineer
| https://iterative.ai/about

Tentative outline

- Slides: ~15min
- Hands on: #NoEstimates

About me



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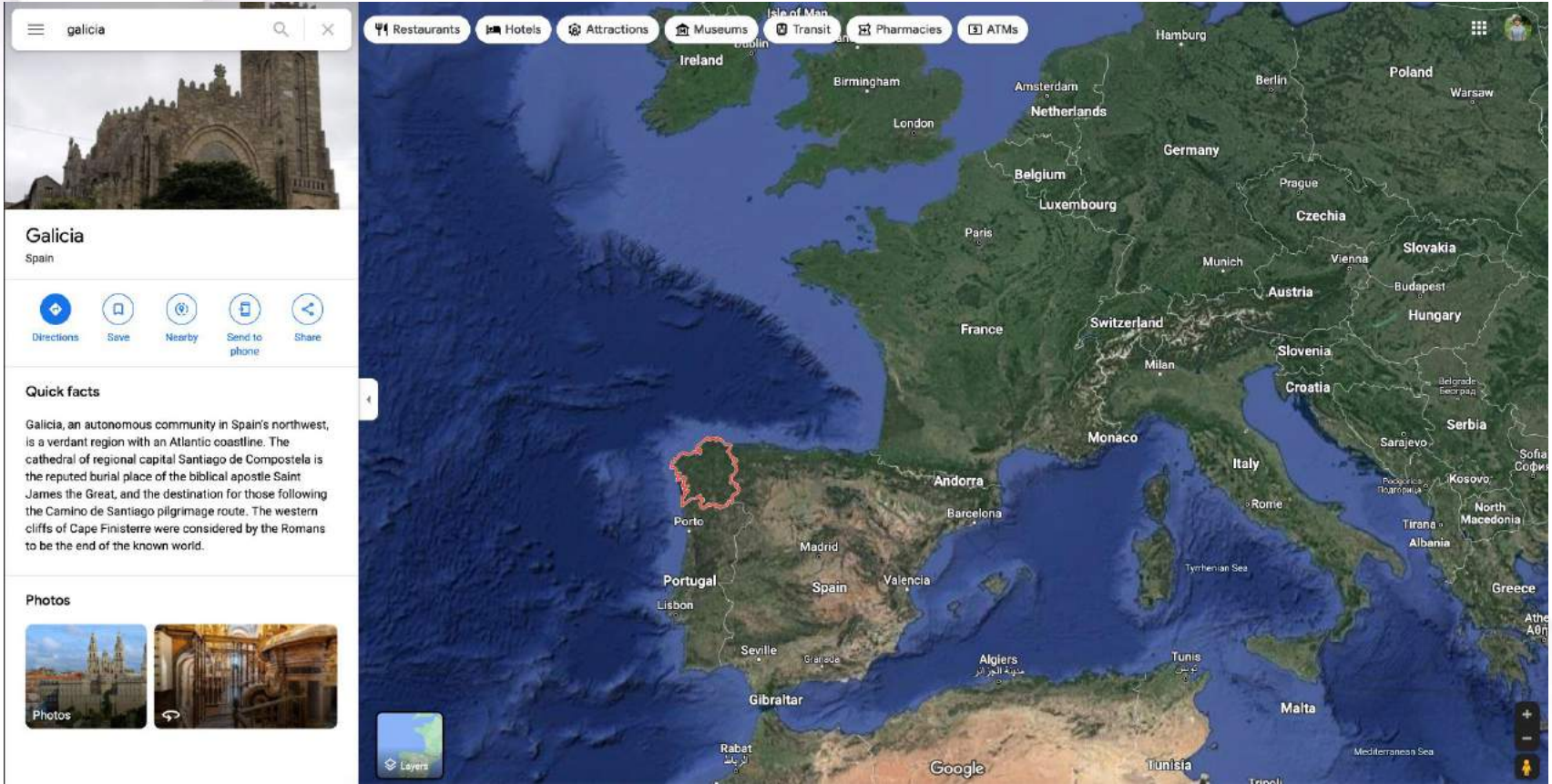
galicia
Galicia
Spain
Directions
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Nearby
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Quick facts
Galicia, an autonomous community in Spain's northwest, is a verdant region with an Atlantic coastline. The cathedral of regional capital Santiago de Compostela is the reputed burial place of the biblical apostle Saint James the Great, and the destination for those following the Camino de Santiago pilgrimage route. The western cliffs of Cape Finisterre were considered by the Romans to be the end of the known world.
Photos
Photos
Restaurants
Hotels
Attractions
Museums
Transit
Pharmacies
ATMs
Ireland
Birmingham
London
Amsterdam
Netherlands
Hamburg
Berlin
Poland
Warsaw
Germany
Belgium
Luxembourg
Prague
Czechia
Paris
Munich
Vienna
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Austria
Budapest
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Croatia
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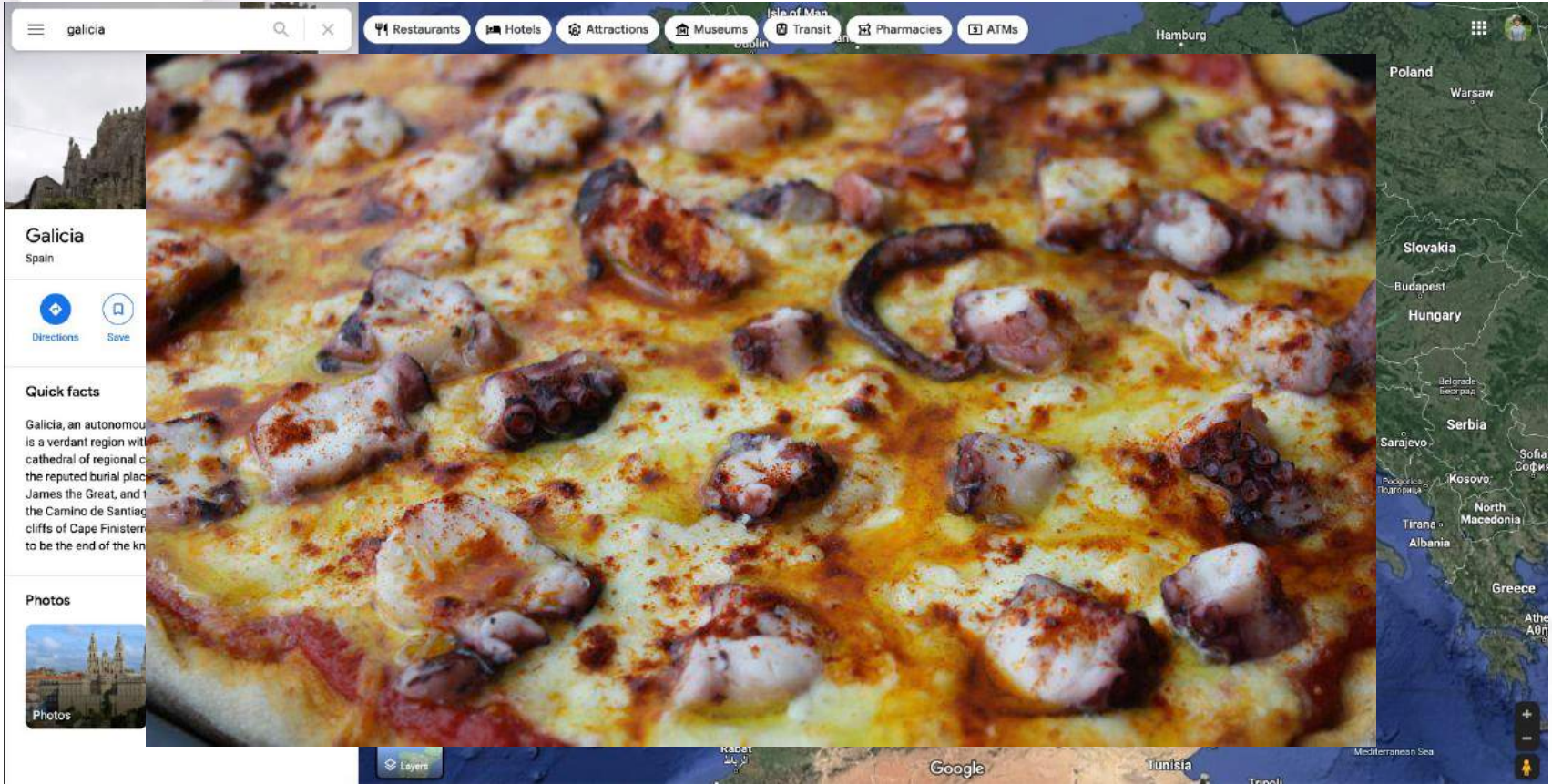
Sarajevo
Italy
Andorra
Barcelona
Rome
Kosovo
North Macedonia
Tirana
Albania
Porto
Madrid
Portugal
Spain
Valencia
Lisbon
Tyrrhenian Sea
Greece
Seville
Granada
Algiers
Tunis
Gibraltar
Malta
Rabat
Tunisia
Mediterranean Sea
Layers
Google

About me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Serbia
Sarajevo
Kosovo
North Macedonia
Tirana
Albania
Greece
Layers
Google
Tunisia
Mediterranean Sea

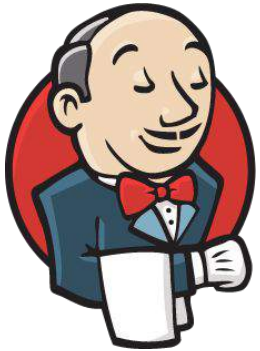
About iterative.ai

About you

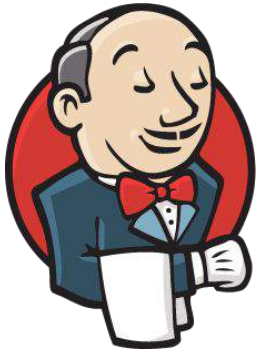
- Data Science
- Machine Learning Engineering
- Other

Uncool Again?

DevOps



DevOps

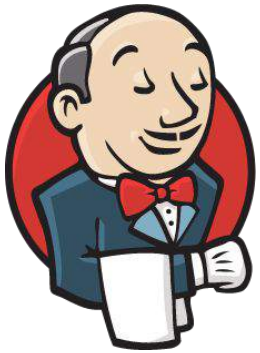


Concourse

circleci

Buddy

DevOps



Concourse

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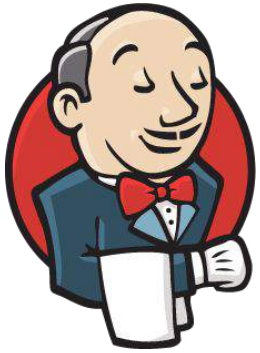
CI/CD

GitHub Actions

DevOps



Concourse

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CI/CD

GitHub Actions

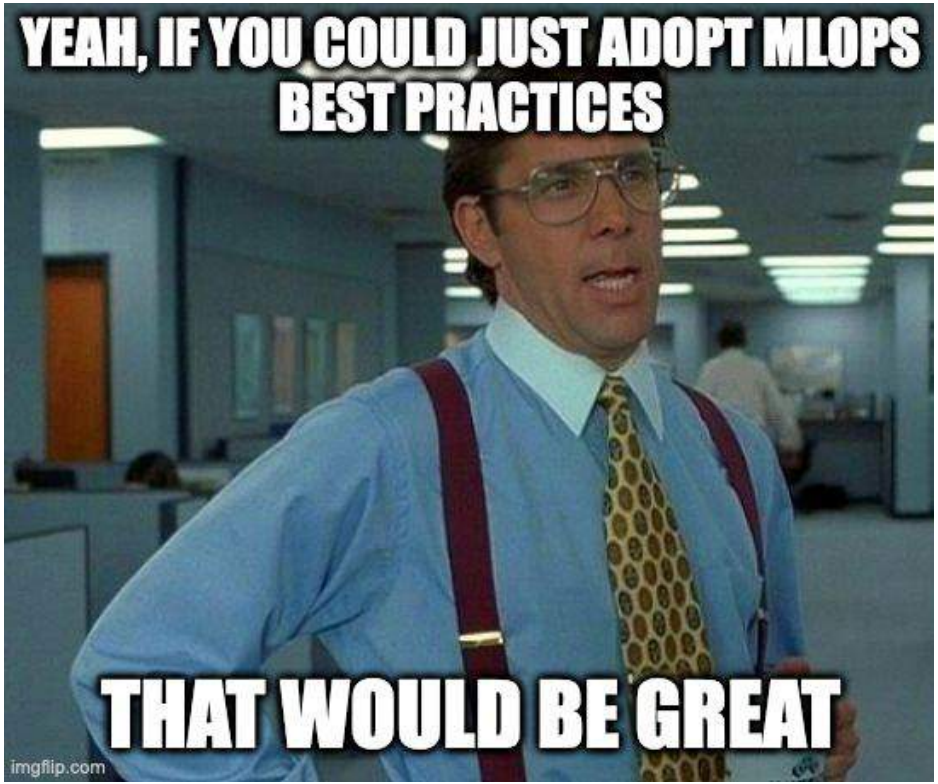
Uncool

Cool

Uncool

MLOps (IMO)

How I got into MLOps



MLOps Goals

Reproducibility

A researcher travels to a remote island … and disappears!

The new researcher who takes over the project can easily access all details:

- Config
- Data
- Model
- Pipeline

Automation

A researcher travels to a remote island and ...

hard chilling

When new data arrives, the model automatically gets:

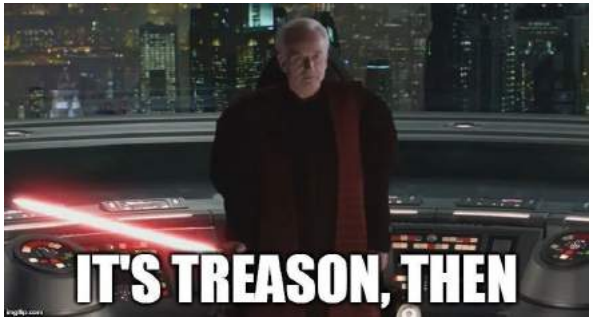
- Trained
- Evaluated
- Deployed

MLOps Tools

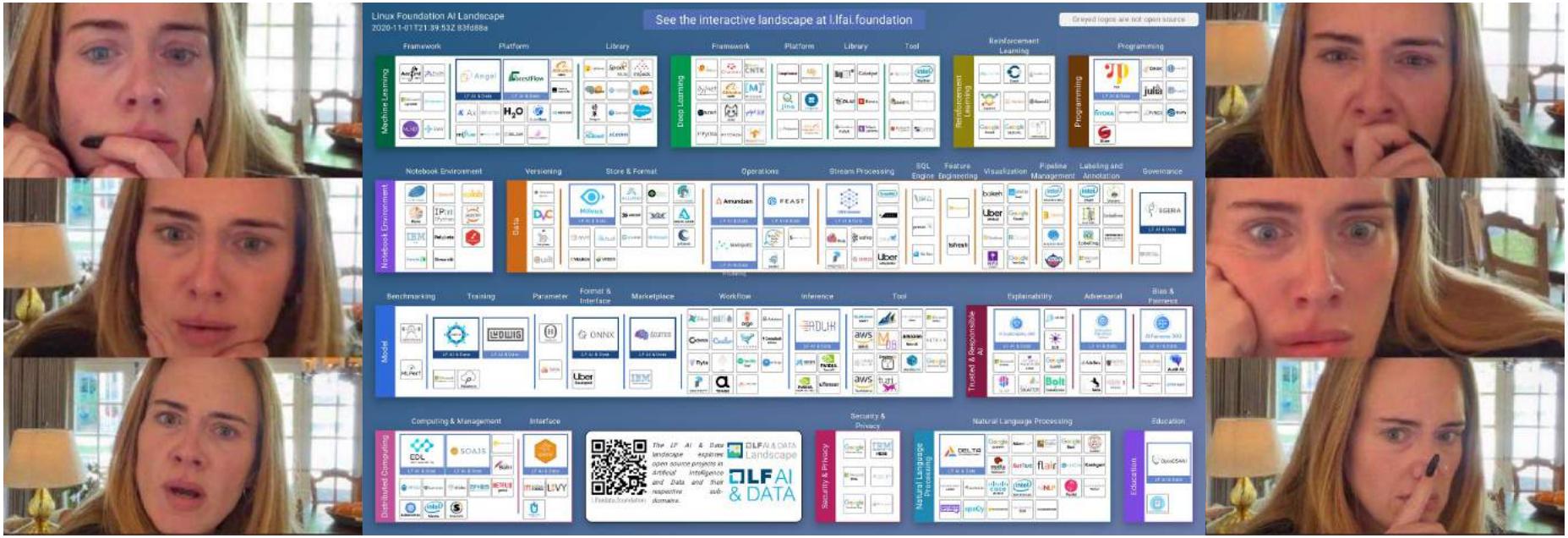
End to End ML platforms

- **Isolates** researchers from software engineering
- (Might be) Overkill

- Vendor lock-in

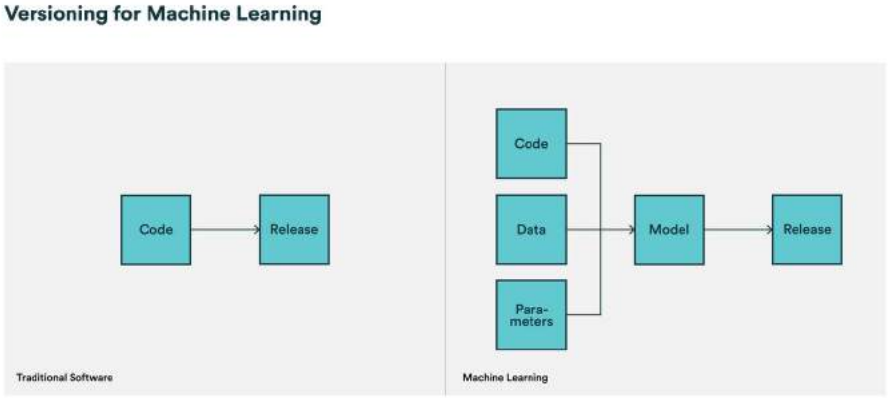


Open Source Collage



Just use DevOps?

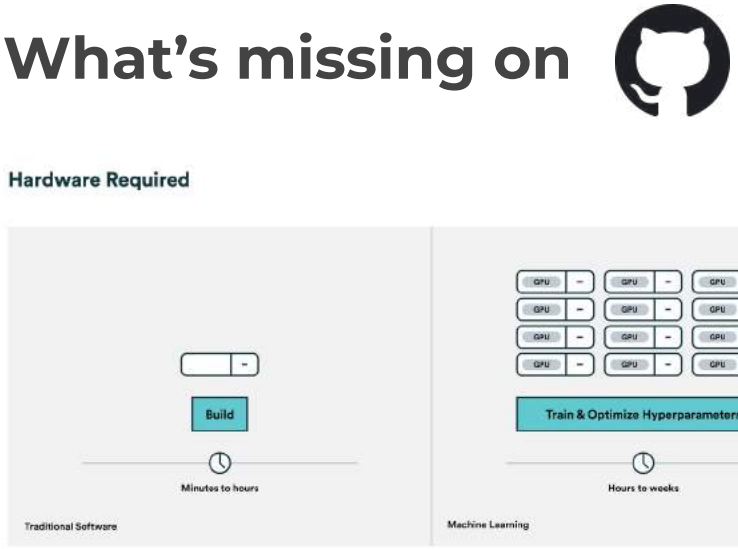
What's missing on



With DevOps, code version control is utilized to ensure clear documentation regarding any changes or adjustments made to the software being developed. With machine learning, however, the code isn't the only changing input. Data is the other critical input that'll need to be managed, as will parameters, metadata, logs, and finally, the model.

[What Is The Difference Between DevOps And MLOps?]

What's missing on



Training machine learning models, especially true for deep learning, tend to be very compute-intensive. For most software projects, the build time is entirely irrelevant, and thus the hardware on which it's done is also irrelevant. Larger models, however, can take anywhere from hours to weeks to train, even on most GPU machines cloud vendors offer, meaning that an MLOps setup needs to be much more sophisticated in what kind of machines it can manage.

CML

[What Is The Difference Between DevOps And MLOps?]

Hands On

github.com/iterative/workshop-uncool-mlops


DVC