STREAMBA

Cloud Based Python Microservices

ML in Production

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Integrate data from across the supply chain.

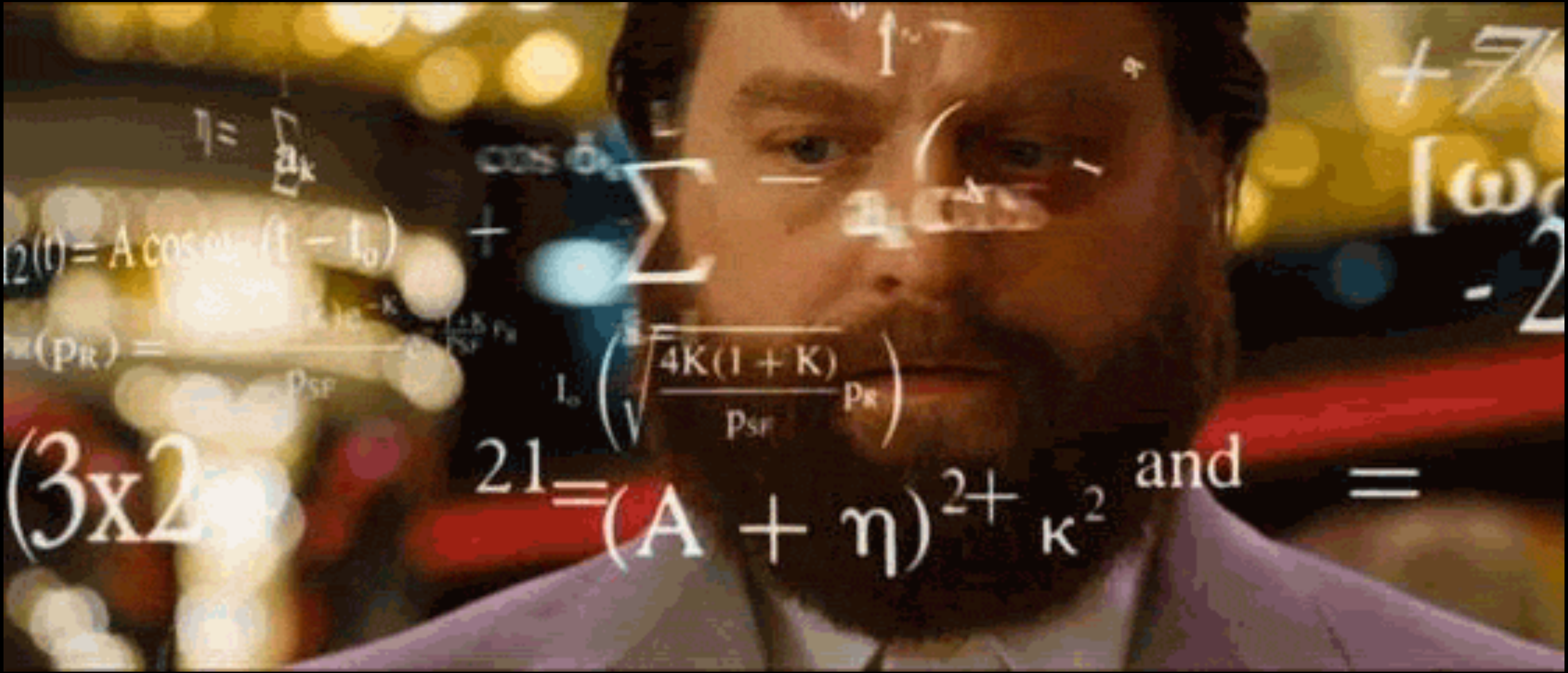
Perform predictive and prescriptive analytics in real time.

VOR

Drive efficiency through smart suggestions and visibility.

Augment humans with computational and artificial intelligence capabilities.

ML is hard



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Sharing ML is harder!

HMM, I NEED DATA.
QUICK, SHOW ME SOME DATA.
!
HMM.
VERY WELL. CARRY ON.
JORGE CHAM © 2017
DRIVE-BY MENTORING.
WWW.PHDCOMICS.COM

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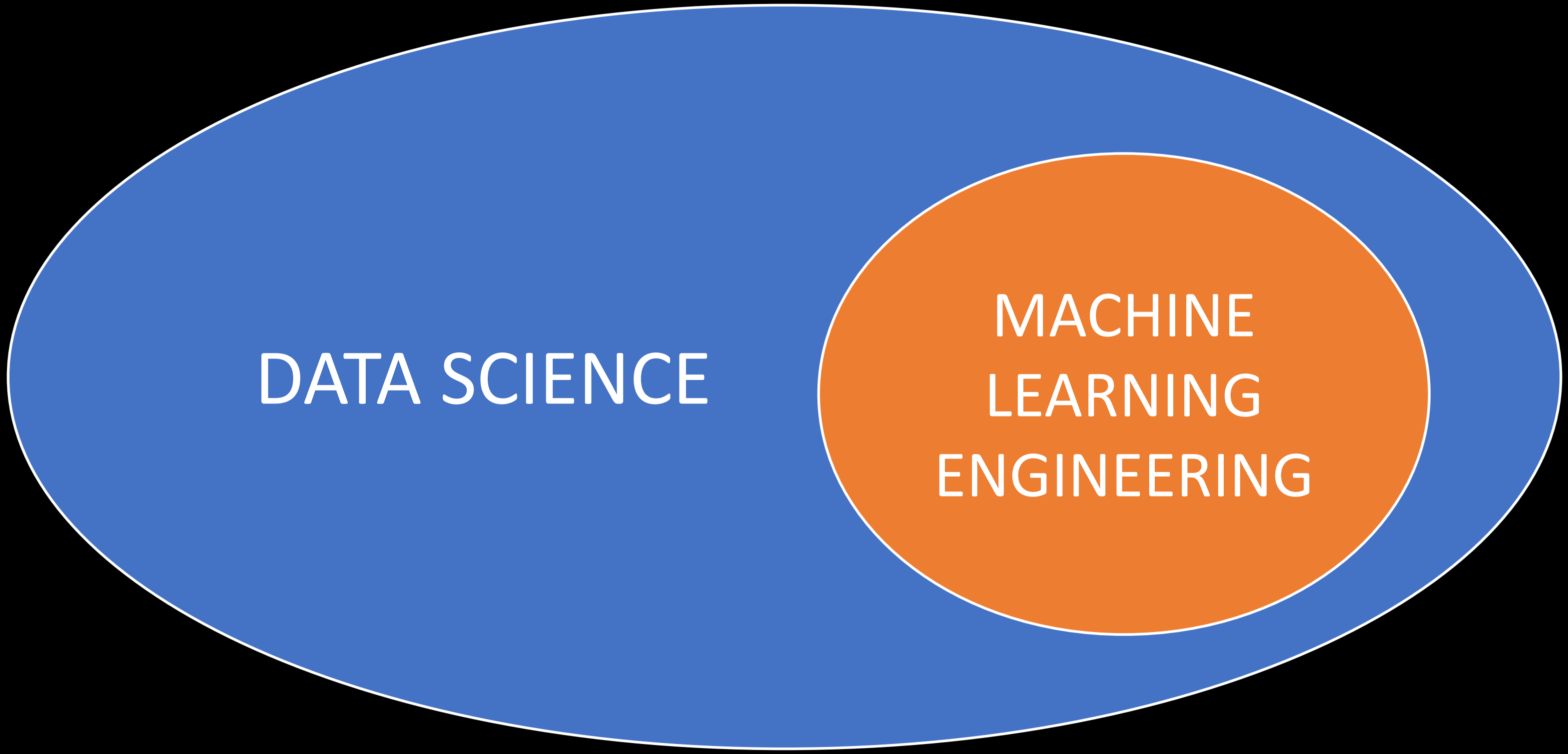
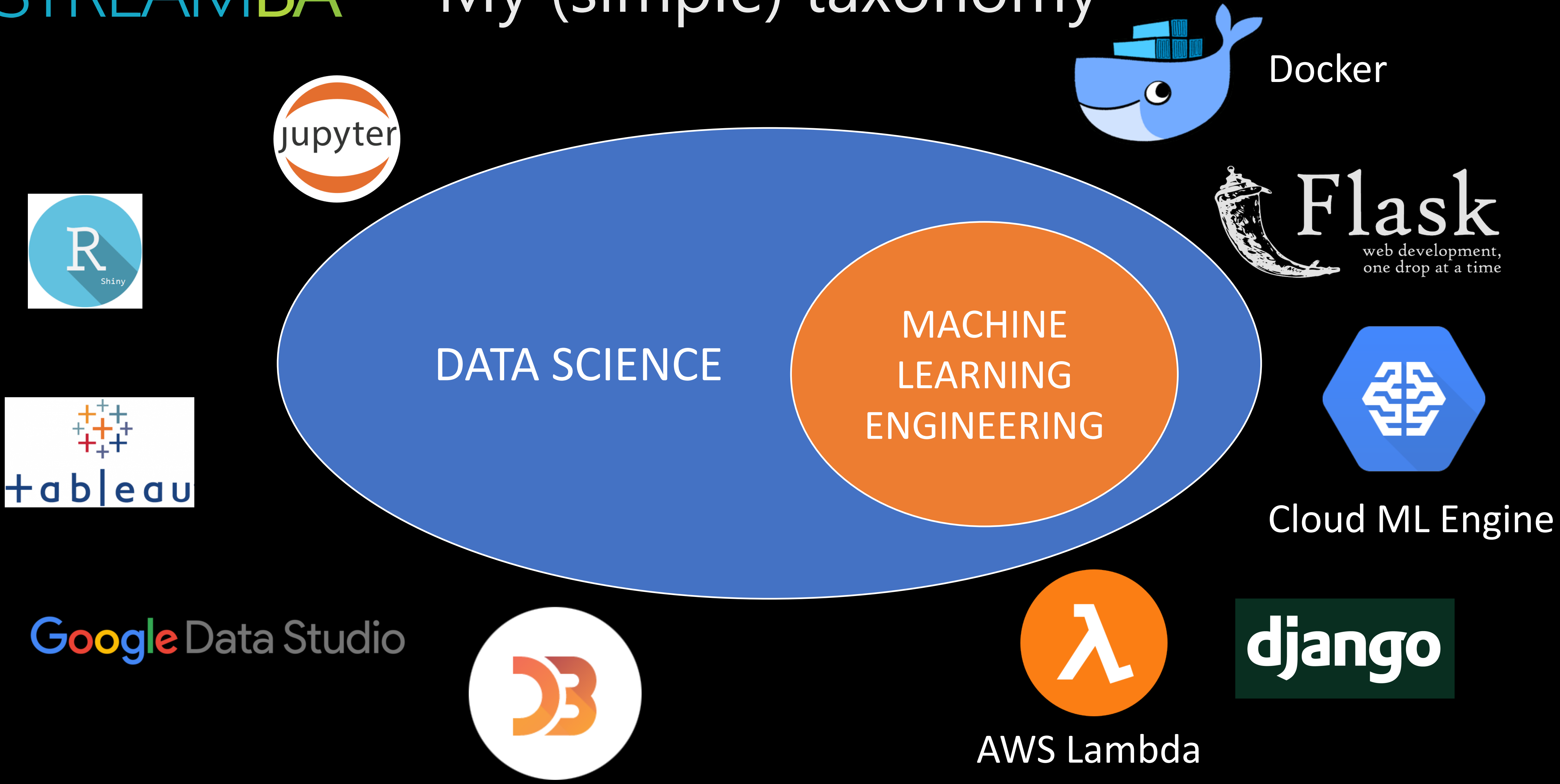
My (simple) taxonomy


DATA SCIENCE

MACHINE LEARNING ENGINEERING

My (simple) taxonomy



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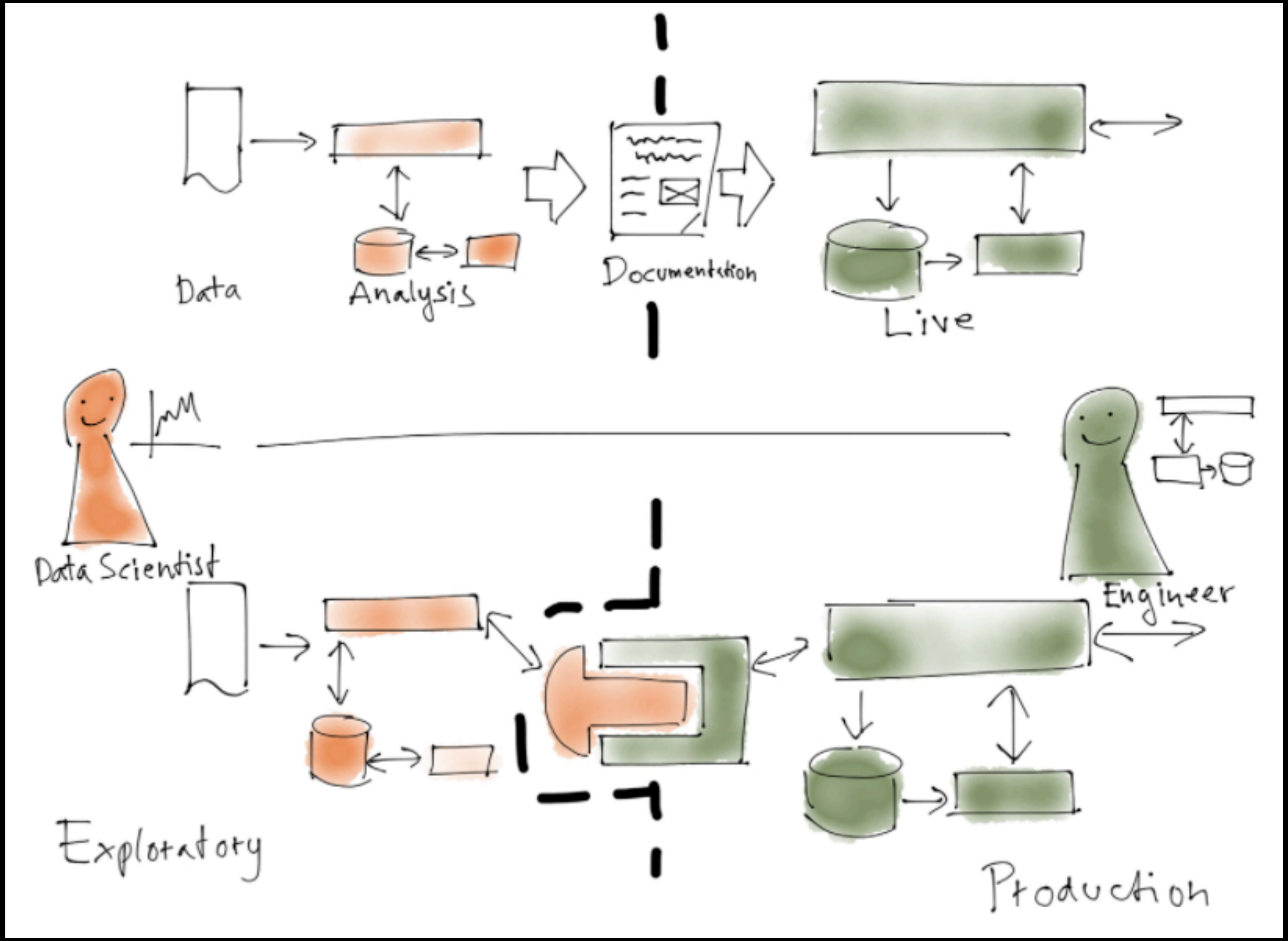
Clear Processes Help



https://www.oreilly.com/ideas/what-is-hardcore-data-science-in-practice

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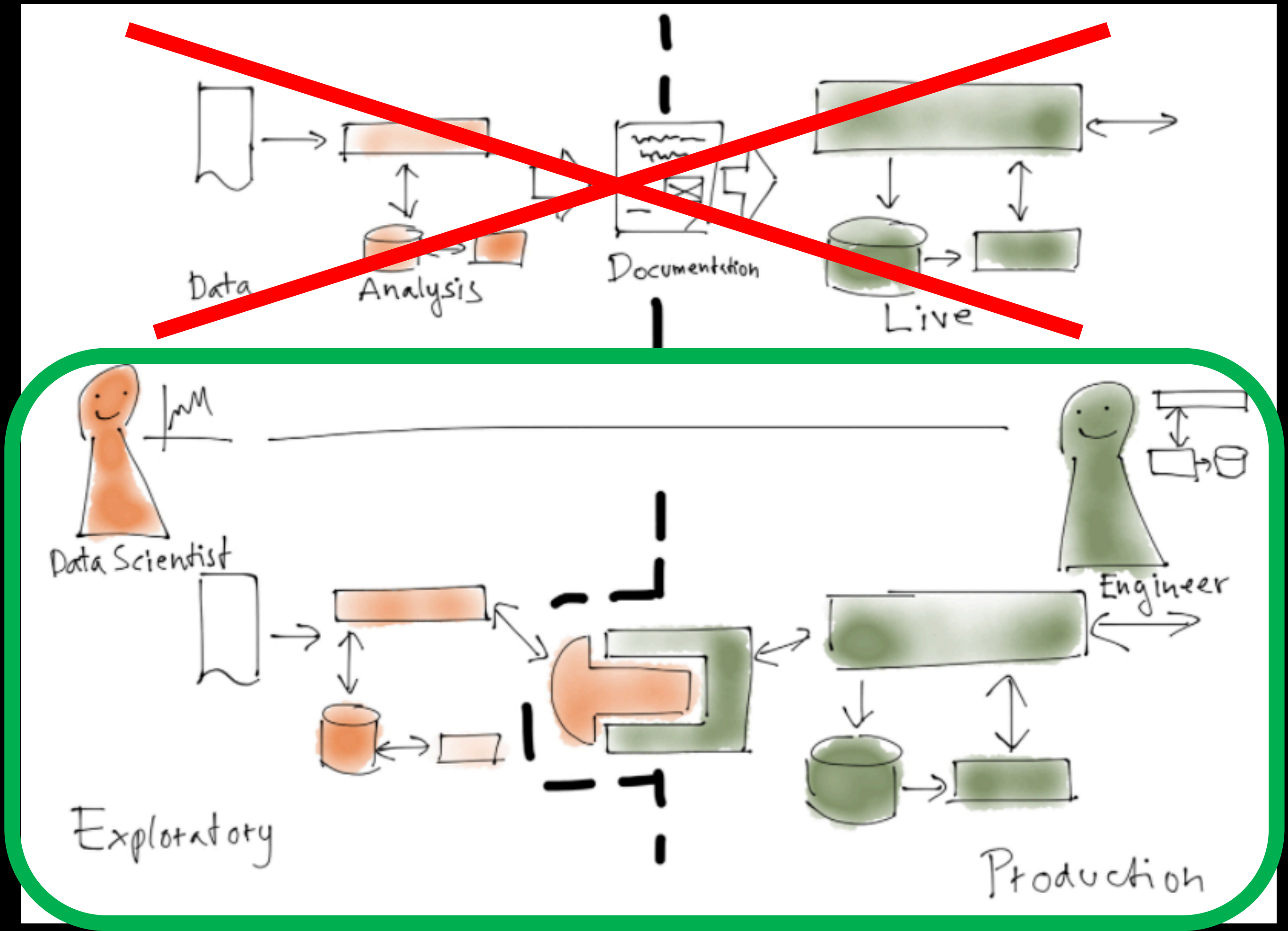
Clear Processes Help

Cross-collaboration, no siloes.

Faster and more robust to change.



Data team own their products.

Contracts between ML services and main product(s).

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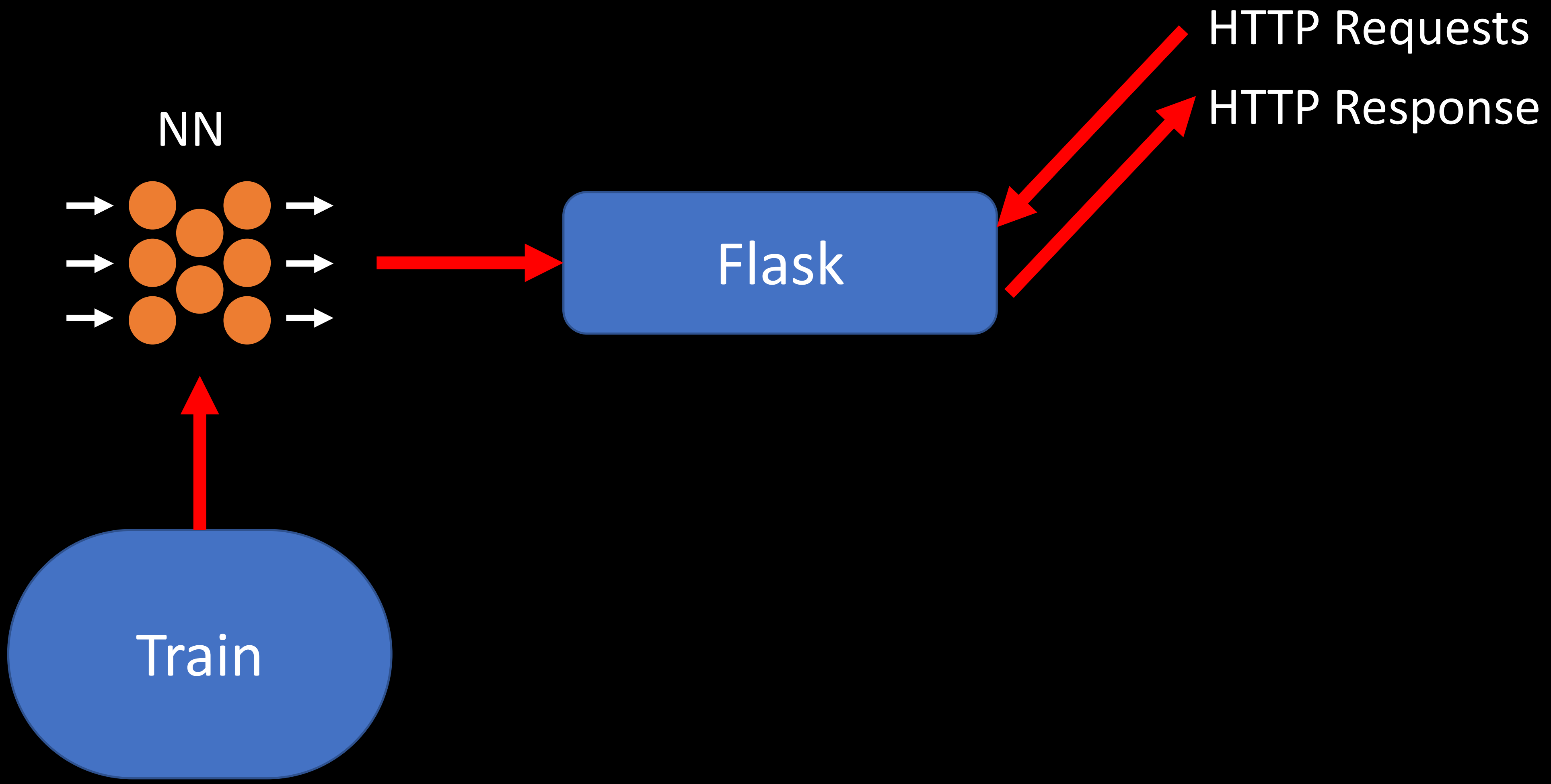
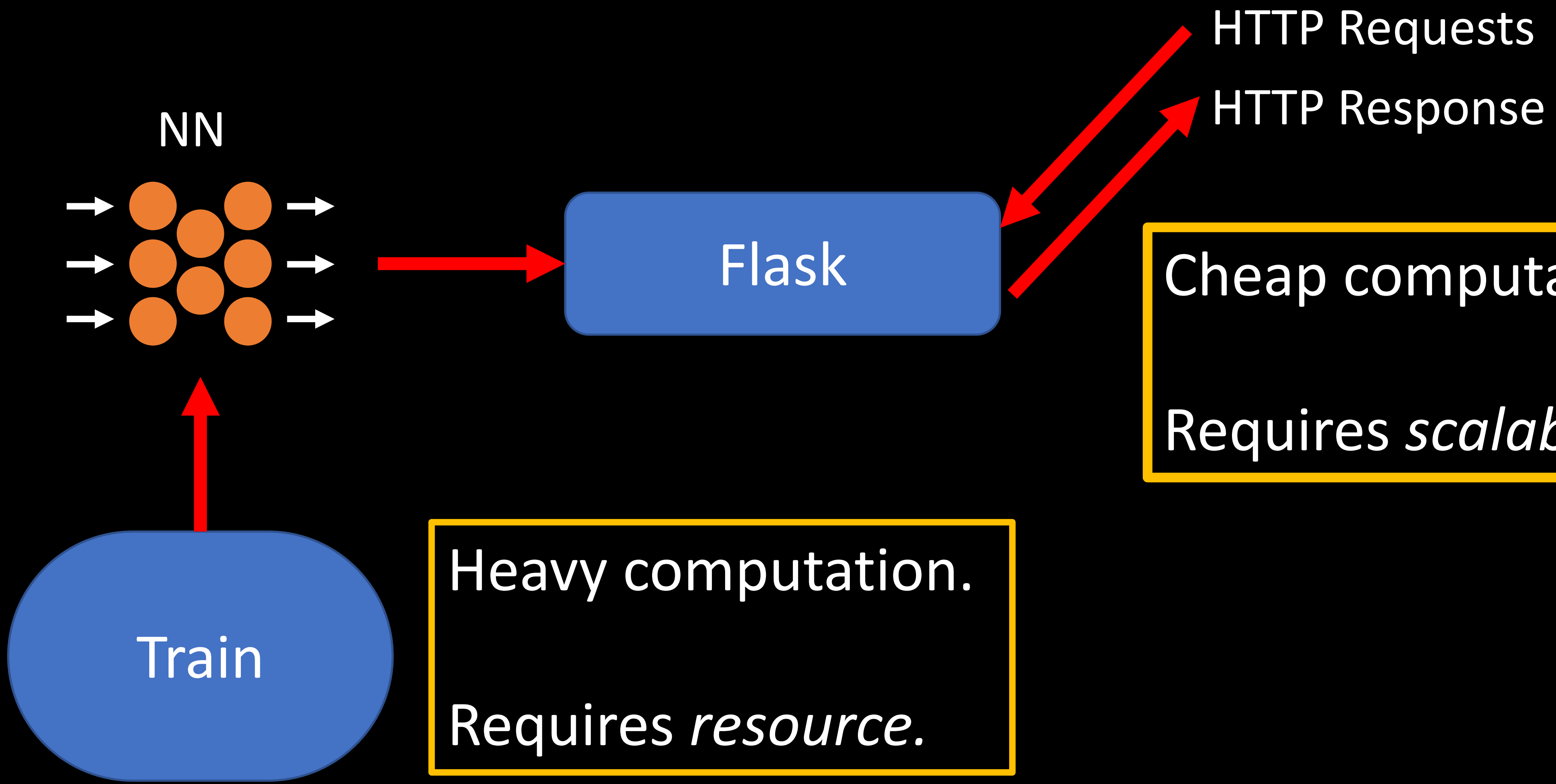
ML Microservice 101



ML Microservice 101



Cheap computation.

Requires *scalability*.

Heavy computation.

Requires *resource.*

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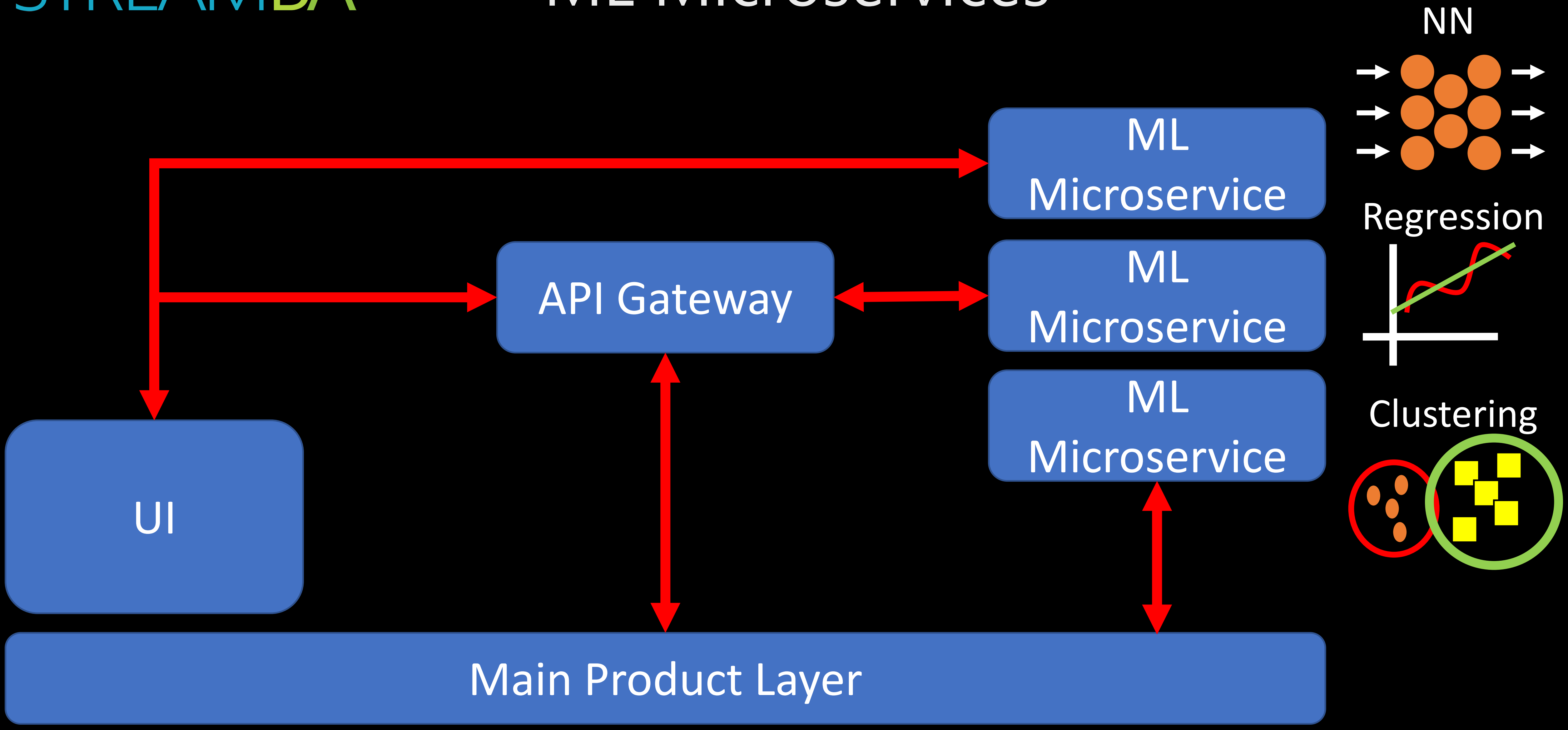
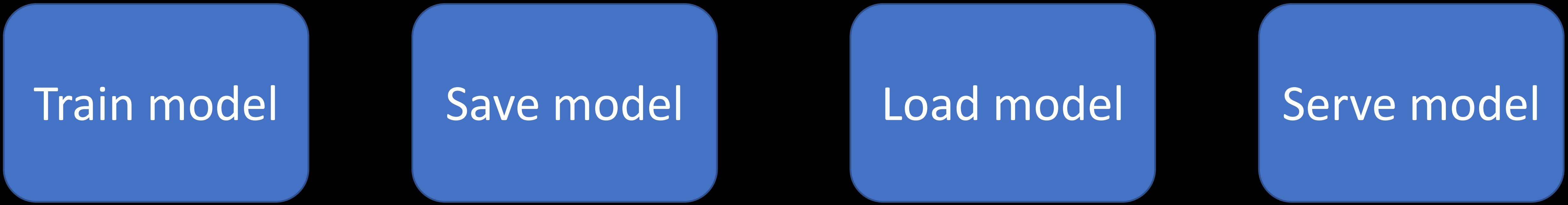
ML Microservices



ML as a Service



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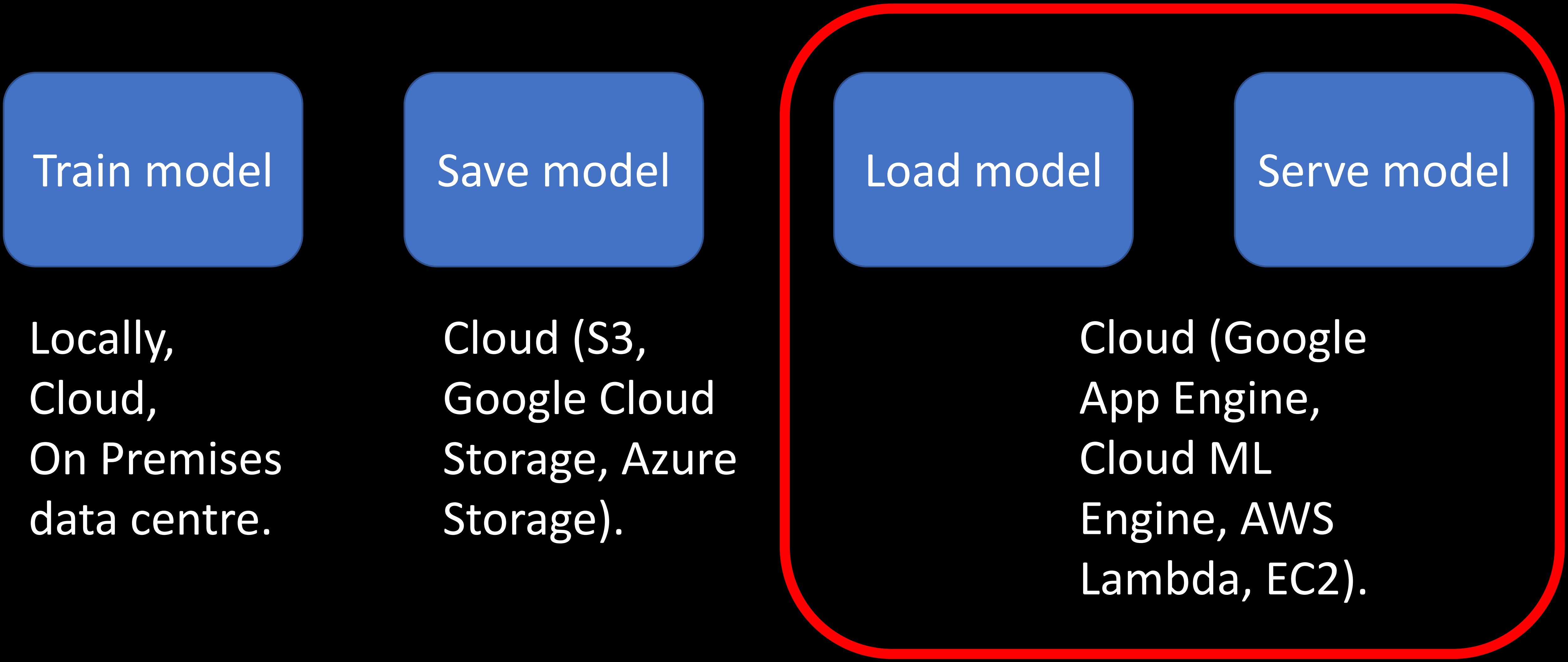
ML as a Service



Train model

Save model

Load model

Serve model

Locally,
Cloud,
On Premises
data centre.

Cloud (S3,
Google Cloud
Storage, Azure
Storage).

Cloud (Google
App Engine,
Cloud ML
Engine, AWS
Lambda, EC2).

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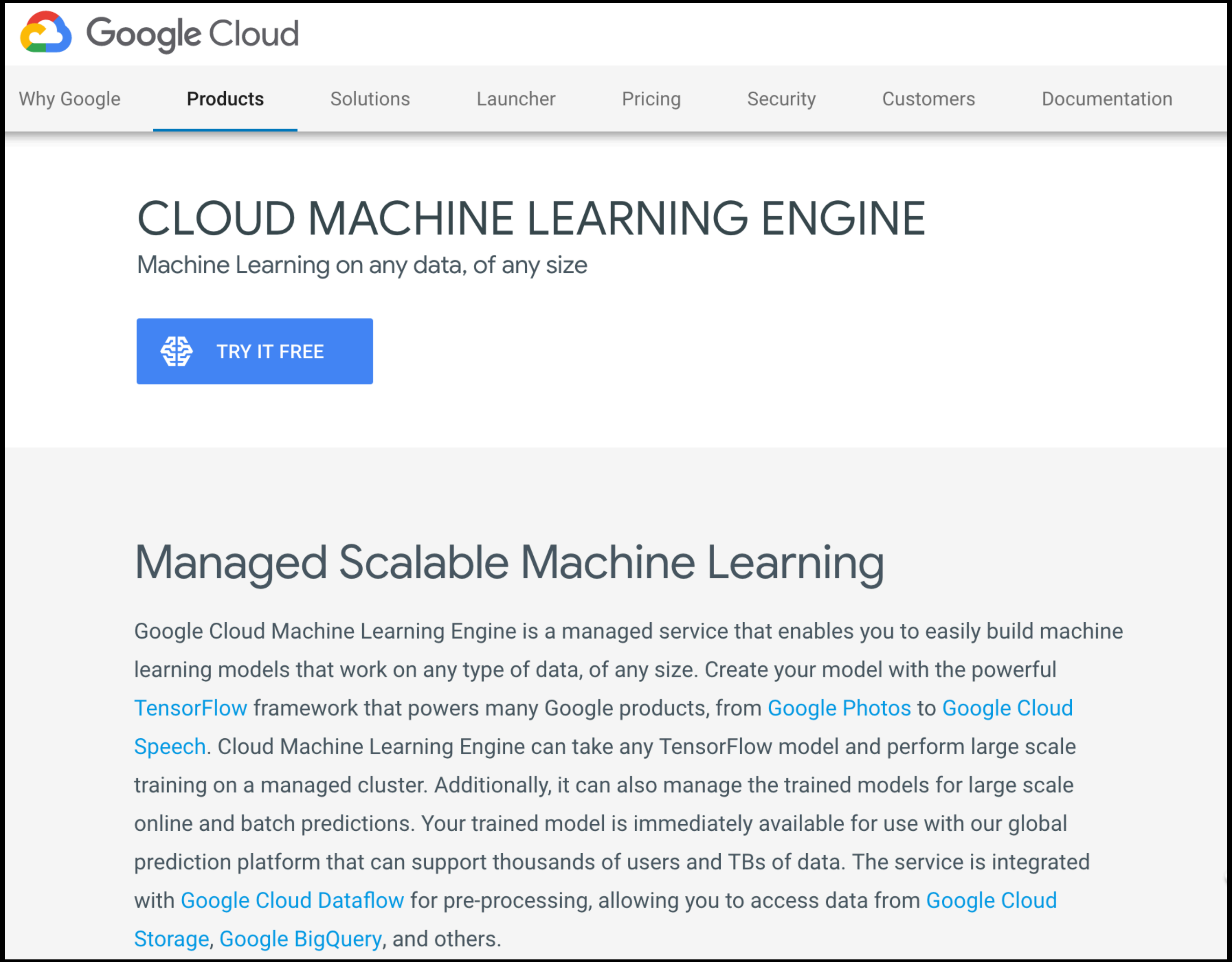
Cloud ML



CLOUD MACHINE LEARNING ENGINE

Machine Learning on any data, of any size

Managed Scalable Machine Learning

Google Cloud Machine Learning Engine is a managed service that enables you to easily build machine learning models that work on any type of data, of any size. Create your model with the powerful TensorFlow framework that powers many Google products, from Google Photos to Google Cloud Speech. Cloud Machine Learning Engine can take any TensorFlow model and perform large scale training on a managed cluster. Additionally, it can also manage the trained models for large scale online and batch predictions. Your trained model is immediately available for use with our global prediction platform that can support thousands of users and TBs of data. The service is integrated with Google Cloud Dataflow for pre-processing, allowing you to access data from Google Cloud Storage, Google BigQuery, and others.

- Managed clusters set up for Tensorflow jobs.
- Can train model on cluster / locally.
- Can serve predictions via an endpoint managed by CloudML. Model loaded into Google Cloud Storage to be read.

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Cloud ML

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DEMO!!!!

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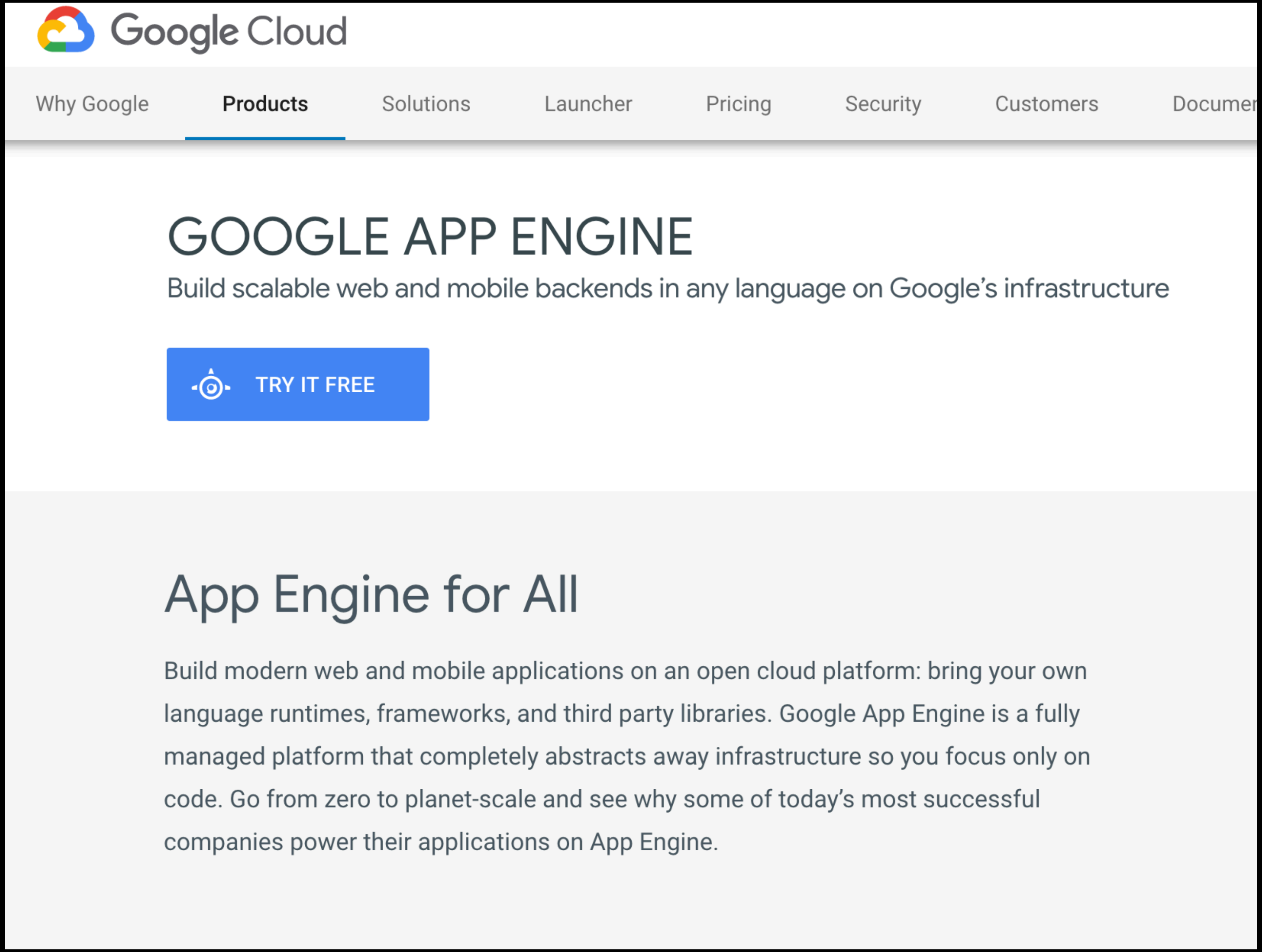
Google App Engine



GOOGLE APP ENGINE

Build scalable web and mobile backends in any language on Google's infrastructure

App Engine for All

Build modern web and mobile applications on an open cloud platform: bring your own language runtimes, frameworks, and third party libraries. Google App Engine is a fully managed platform that completely abstracts away infrastructure so you focus only on code. Go from zero to planet-scale and see why some of today's most successful companies power their applications on App Engine.

- Managed VM infrastructure.
- Supported languages and Docker containers.
- Built to scale.
- Very easy to use but you may want even more control (Compute Engine / EC2).

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Google App Engine

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App Engine for

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Conclusions

- It is important you know how to share your ML work.
- Learn the tools – just pick one and start playing.
- GCP has options specifically for Tensorflow/Scikit-learn and more general options. AWS and Azure have great tools too.
- Don’t fall into the trap of thinking “that’s the engineer’s job”, it’s *your job!*