



ALL DAY DEVOPS

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**AI with a devops mindset:
experimentation, sharing and
easy ML deployment**



GOOGLE AI MAKES PHONE
CALLS??!! CAN YOU DO
SOMETHING LIKE THAT USING
THAT TENSORFLOW STUFF?
USERS WOULD LOVE THAT!

PERSON A, VP OF PRODUCT
The real goal? A great PR



WAIT... CAN YOU ALSO DO
THAT IN A CONTAINER USING
BLOCKCHAIN?

PERSON B, appointed new VP of product



WHY DON'T WE CREATE AN AI
DEVOPS CLOUD-NATIVE APP ON
K8S USING BLOCKCHAIN BACKED
BY IOT DEVICES THAT THE USER
WILL EXPERIENCE WITH A VR
HEADSET? A TRULY DISRUPTIVE
DIGITAL TRANSFORMATION!

SERVICE MESH!

PERSON C, appointed CEO and master-of-all things
Gets funded and moves to the Bay Area





TIMELESS CONFLICT

Fighting the downwards spiral



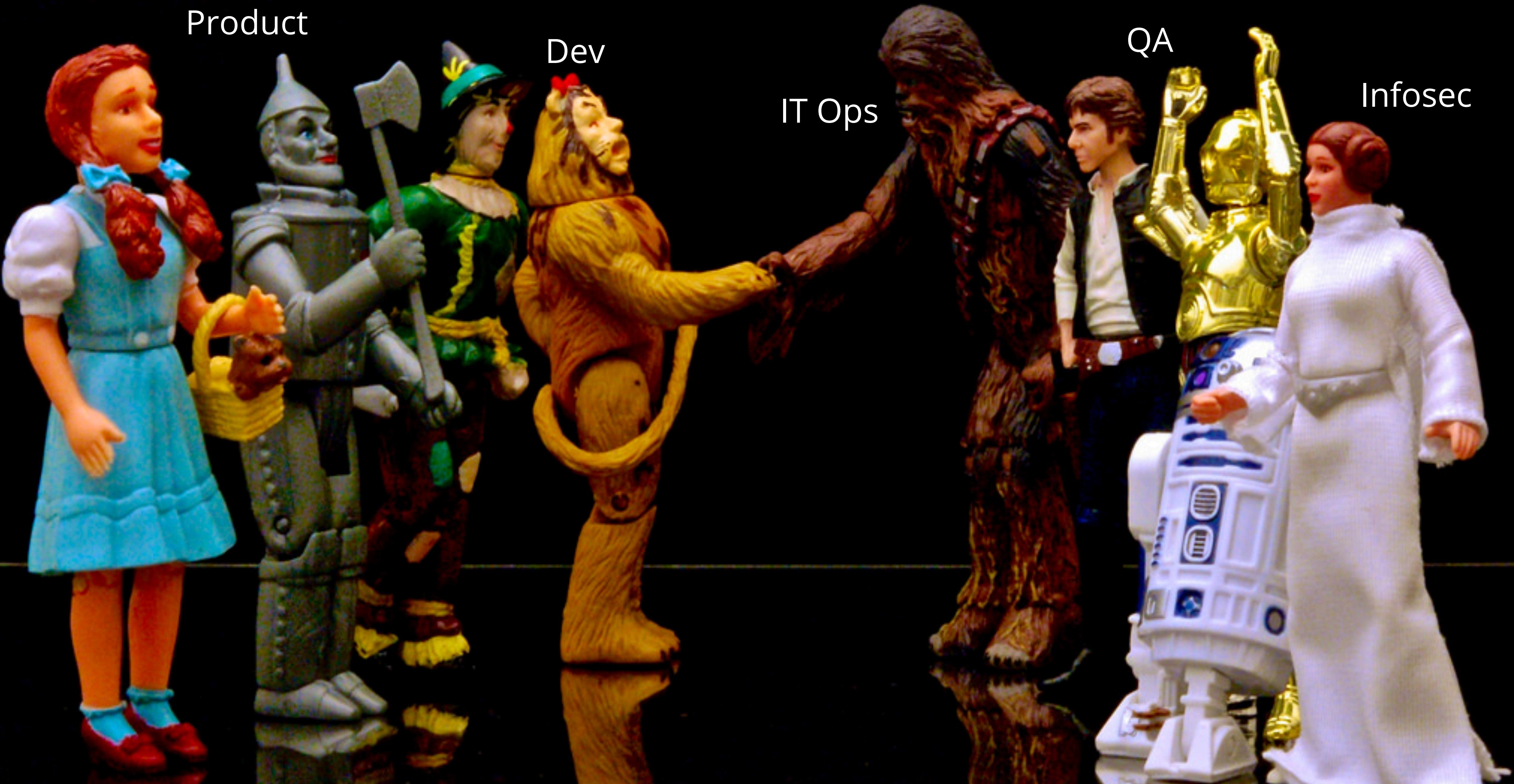
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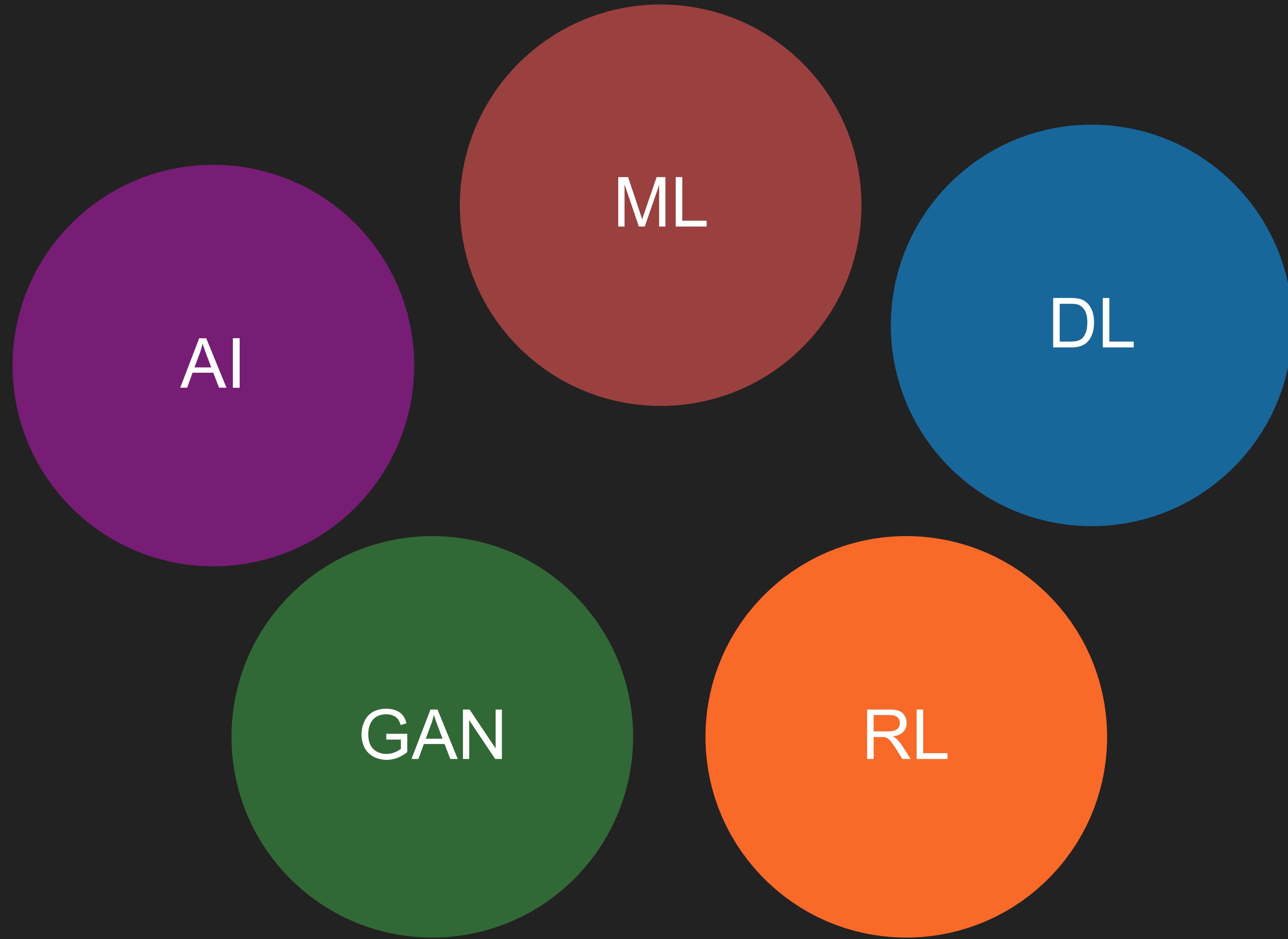
Dev

IT Ops

QA

Infosec

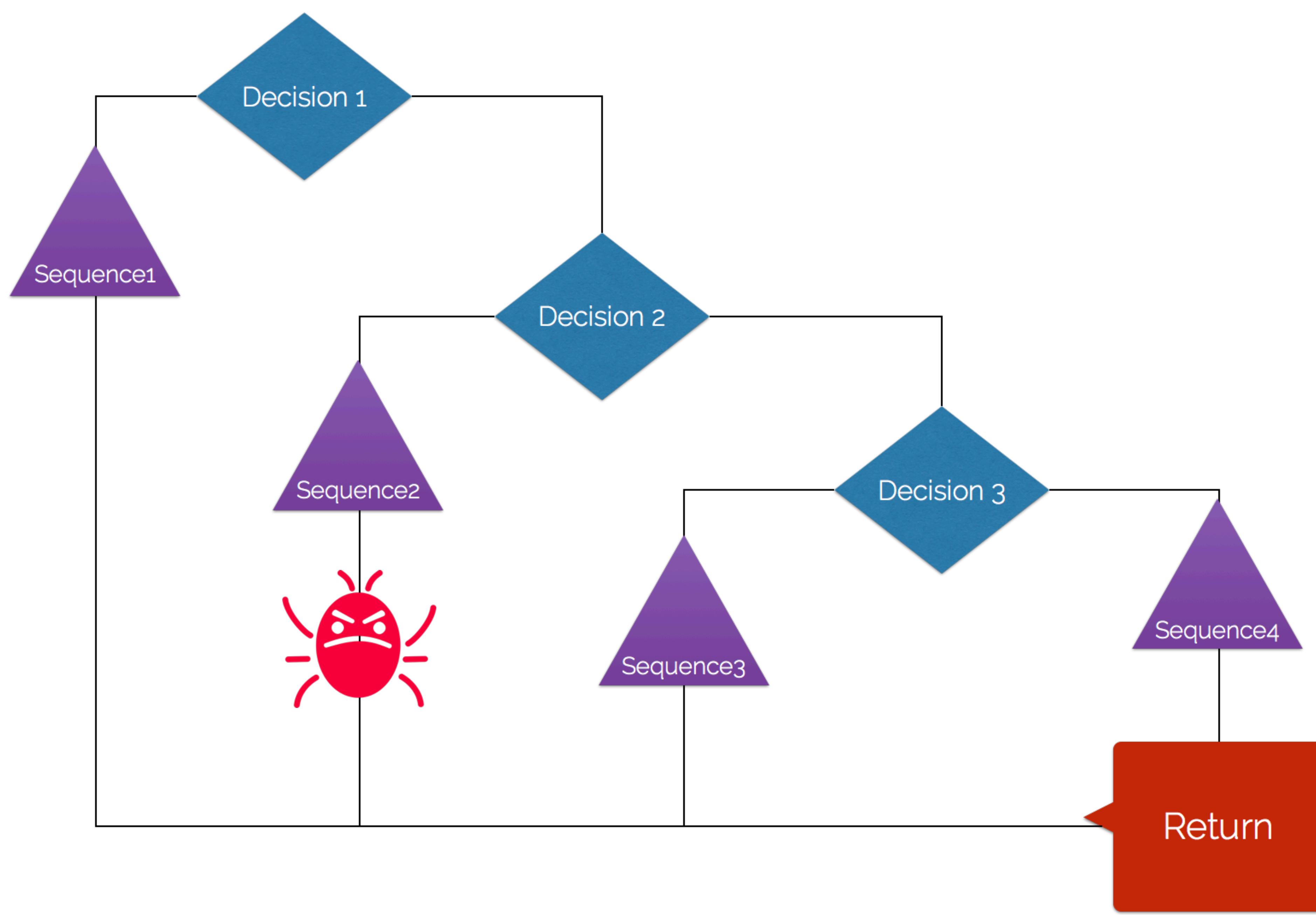




IF/ELSE, LOOPS & FUNCTIONS

NON-ML DEVELOPMENT





DATA & HYPERPARAMETERS

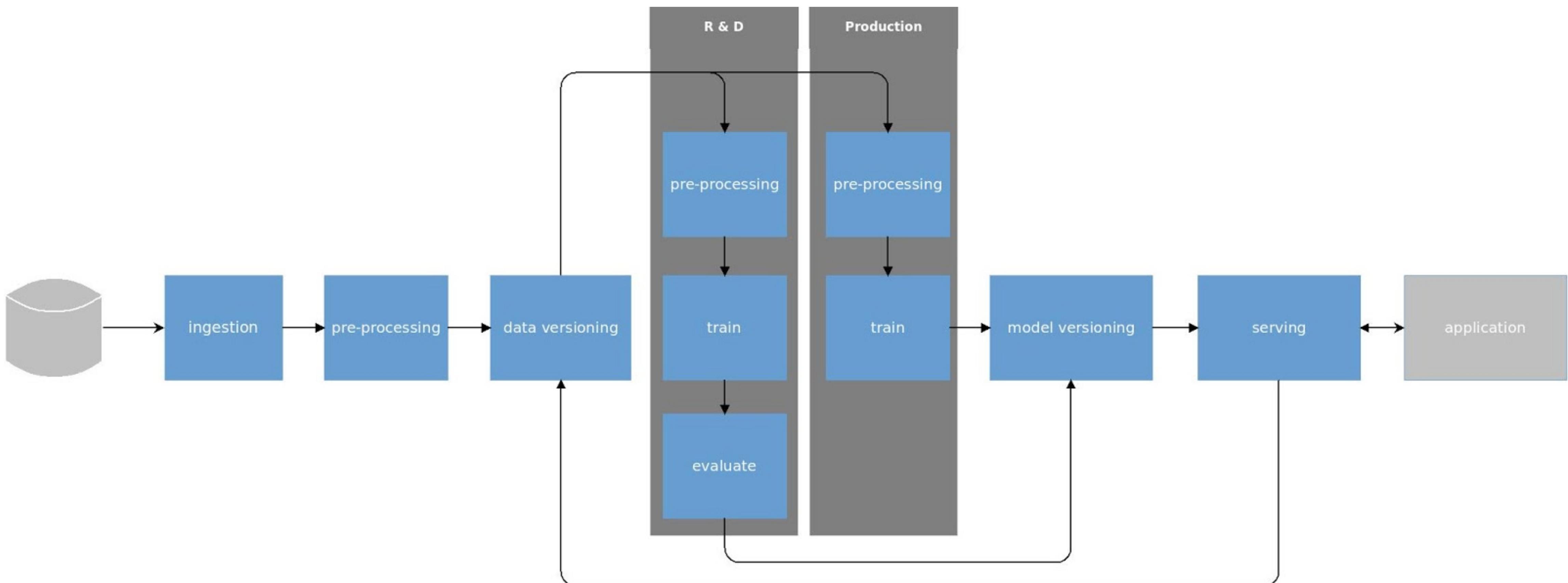
ML DEVELOPMENT



ML LIFECYCLE

DIFFERENT, BUT NOT THAT MUCH...







Manual
INGESTION

DATA PIPELINE

CLEAN



EXPLORE
FEATURE
ENGINEERING



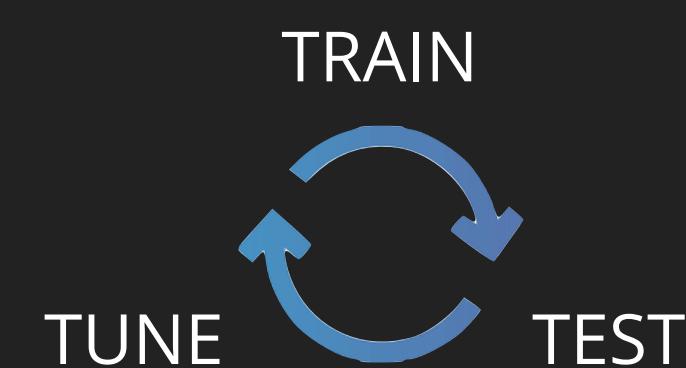
Manual
INGESTION

DATA PIPELINE

EXPLORE

CLEAN

FEATURE
ENGINEERING



MODEL DEV



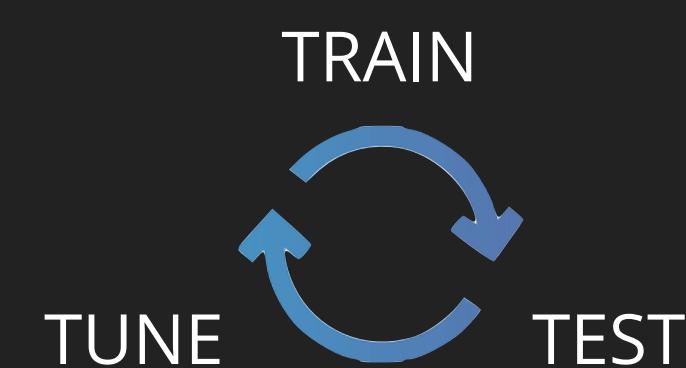
Automated
INGESTION

DATA PIPELINE

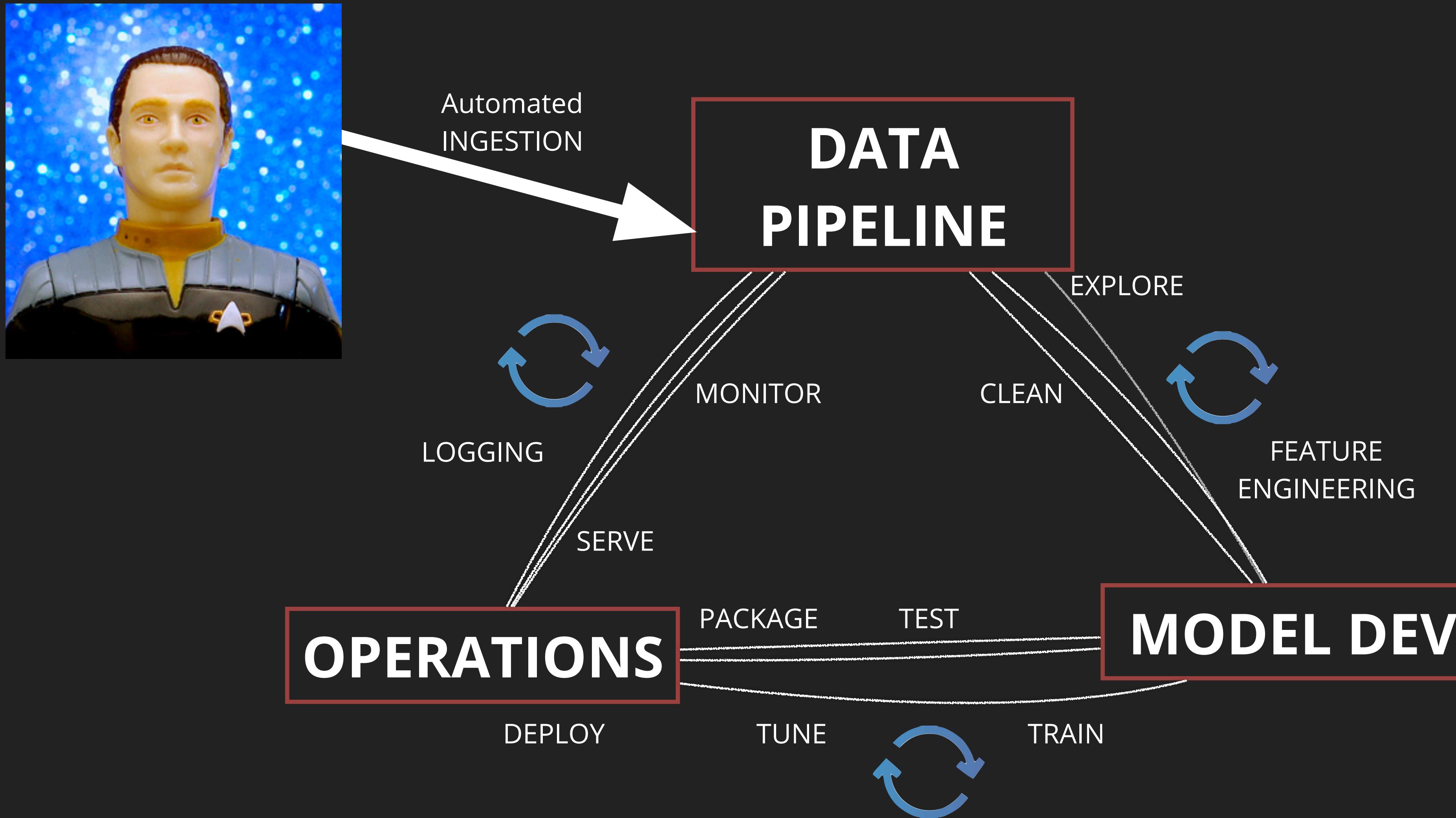
EXPLORE

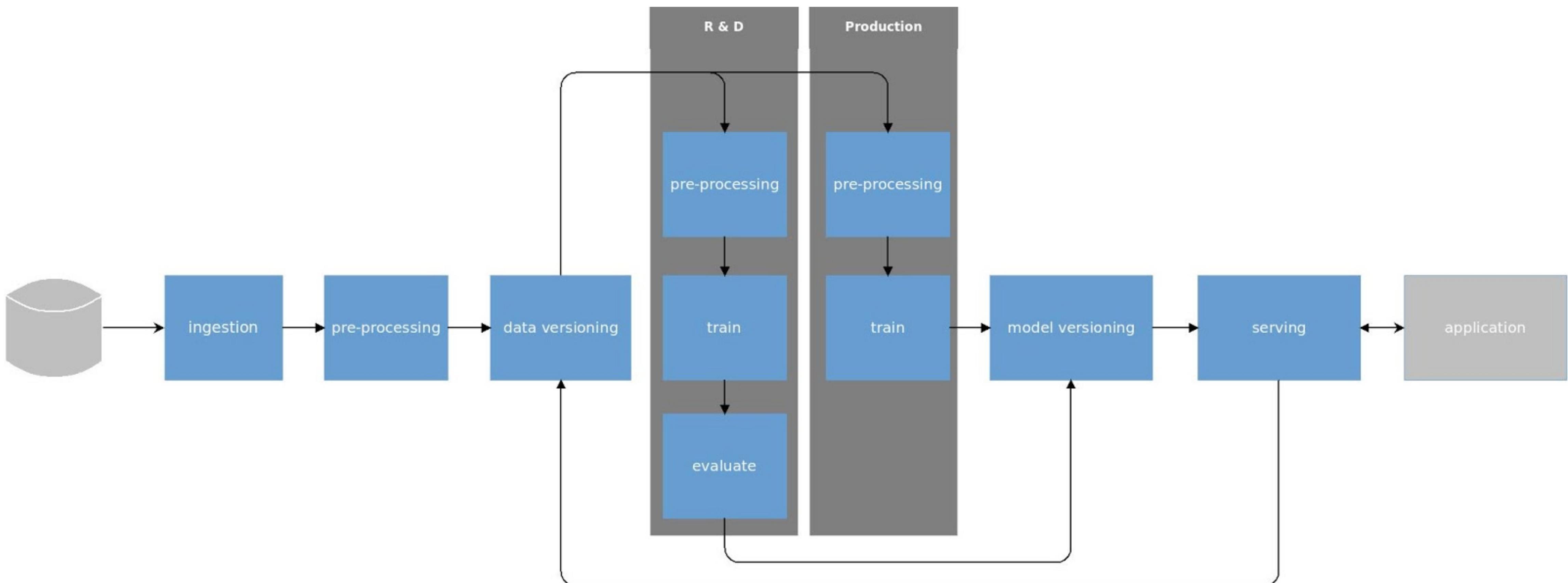
CLEAN

FEATURE
ENGINEERING



MODEL DEV



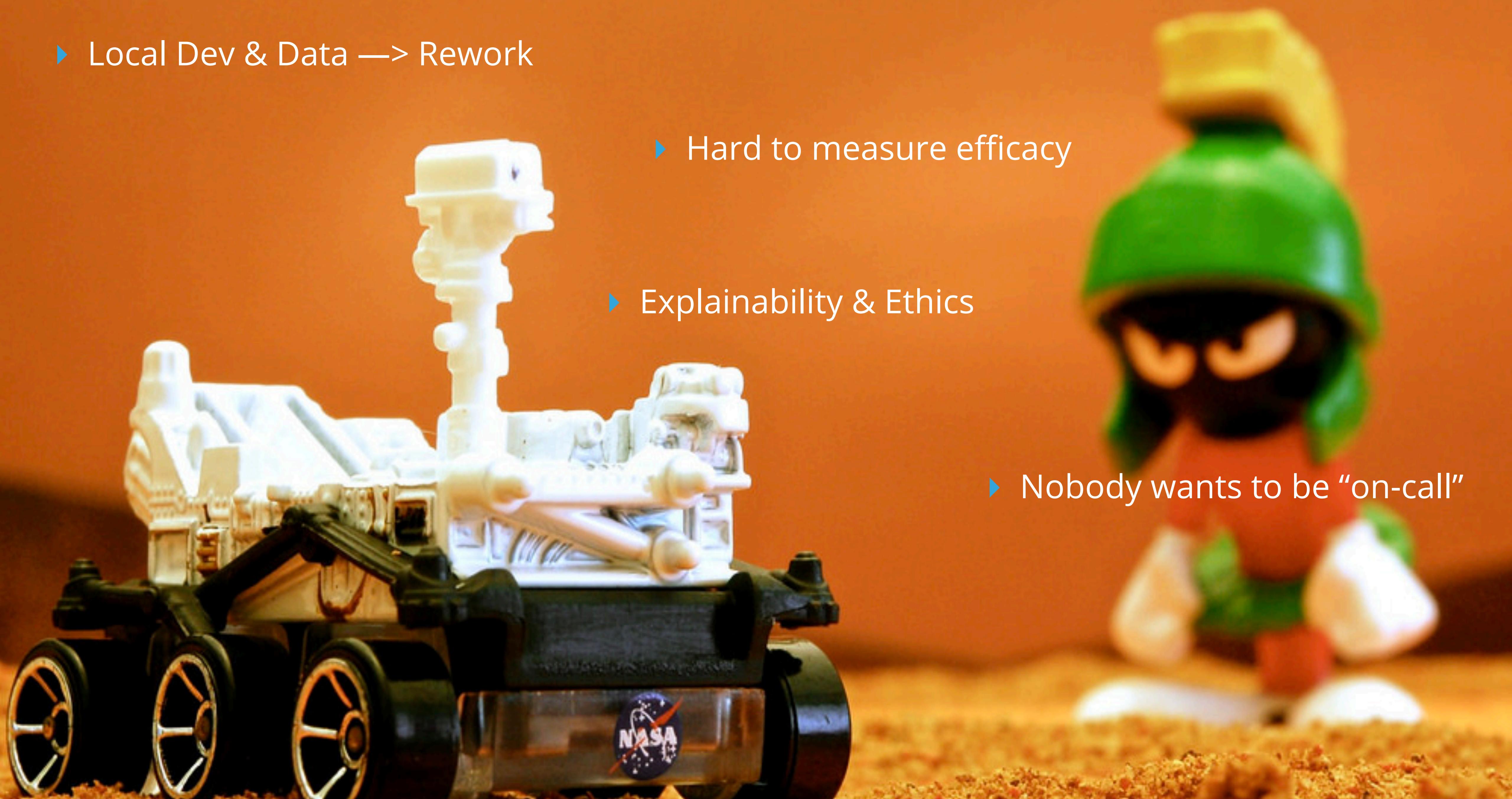


PROBLEMS ALONG THE WAY

SURPRISE SURPRISE, CULTURE IS THE BIGGEST ONE...



► Local Dev & Data —> Rework



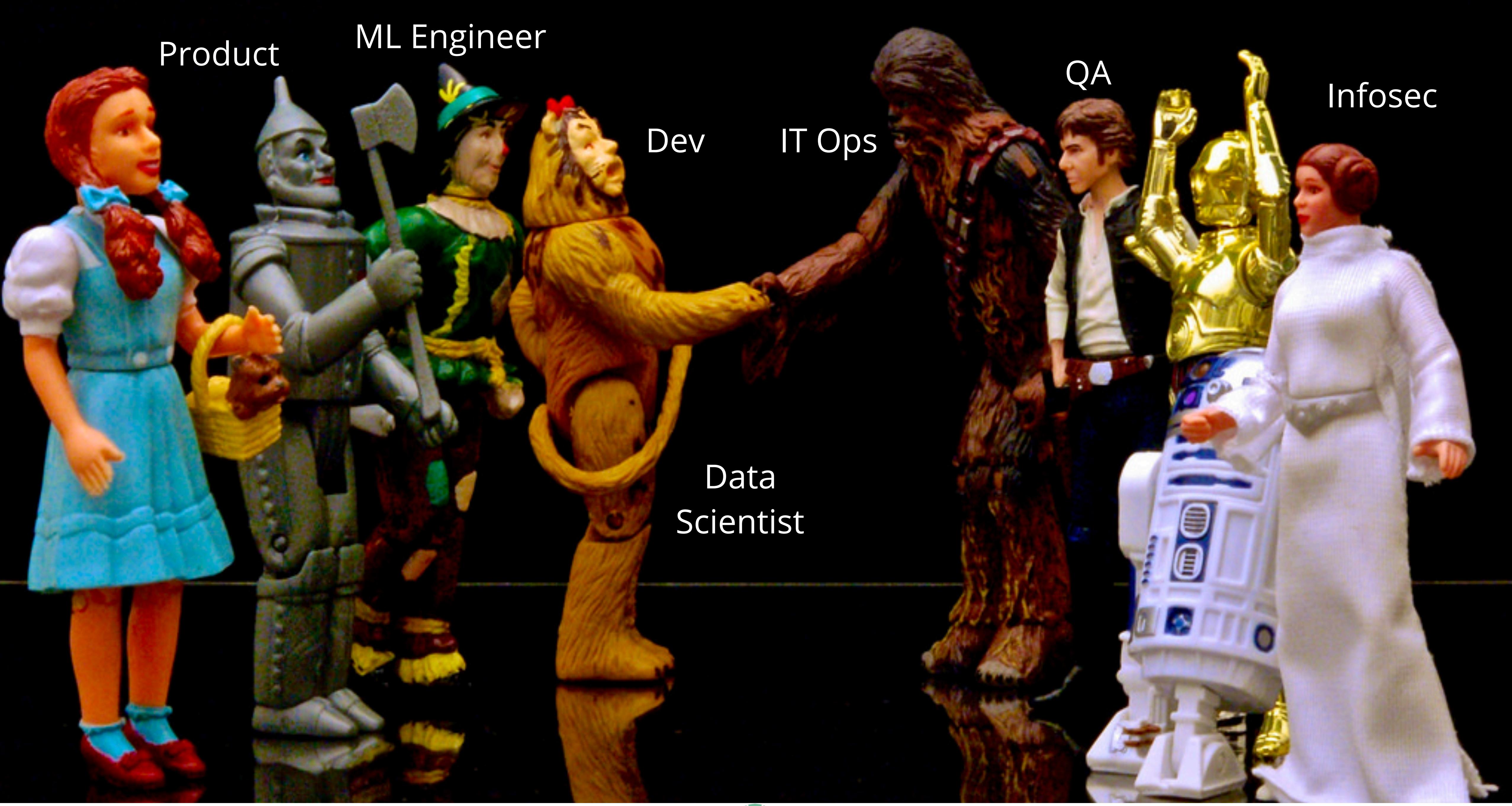
► Hard to measure efficacy

► Explainability & Ethics

► Nobody wants to be “on-call”

SILVER BULLET
CULTURE CHANGE.
NEW WAYS OF WORKING.





Product

ML Engineer

Dev

IT Ops

QA

Infosec

Data
Scientist

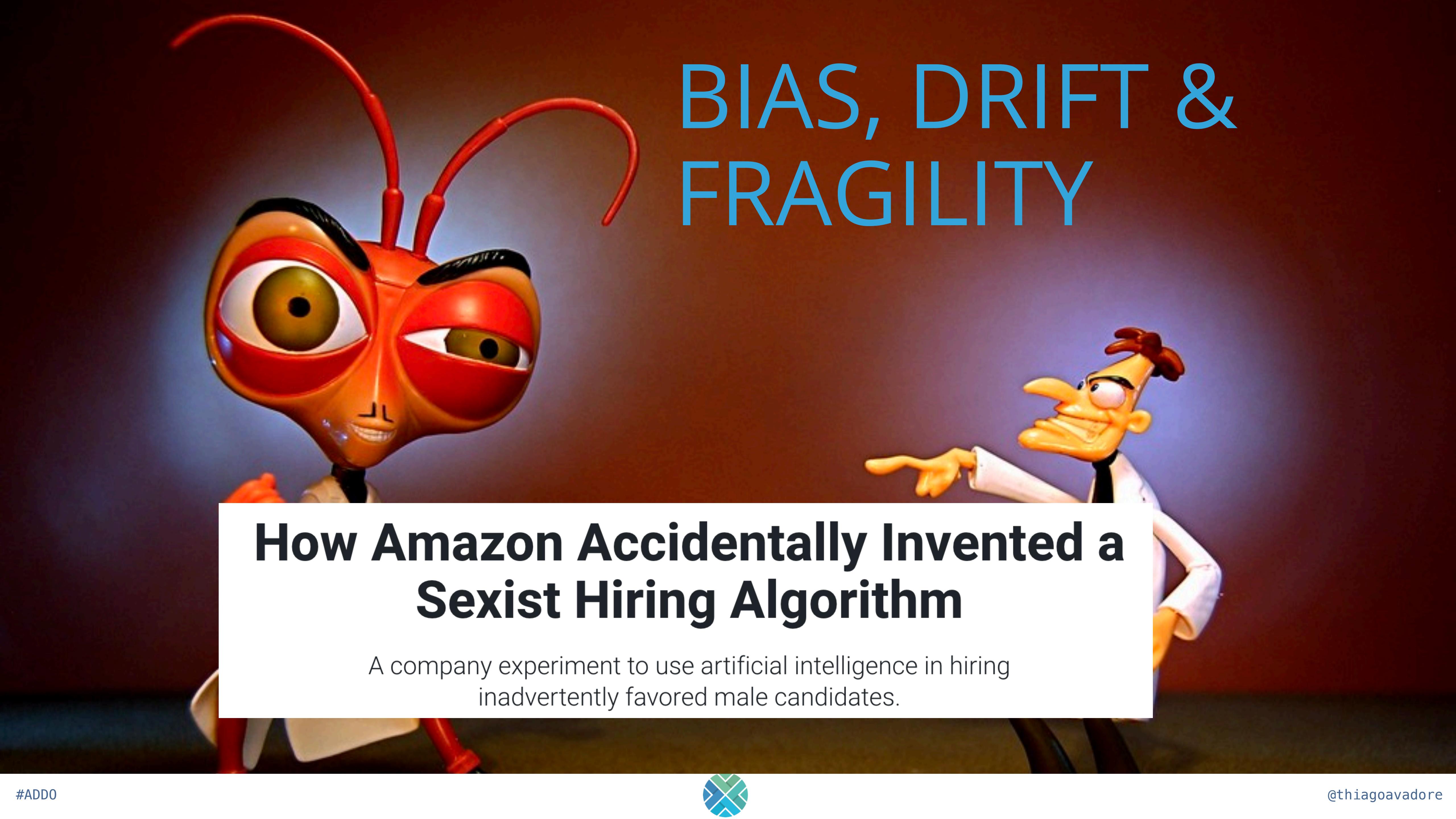
LOCAL DATA SCIENCE IS DEAD



CI/CD FOR ML

*MORE THAN IT... CONTINUOUS EVALUATION





BIAS, DRIFT & FRAGILITY

How Amazon Accidentally Invented a Sexist Hiring Algorithm

A company experiment to use artificial intelligence in hiring inadvertently favored male candidates.



DEVOPS CULTURE

CODE, DATA & MODEL VERSIONING

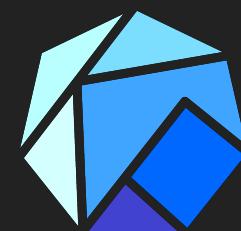
EVALUATION

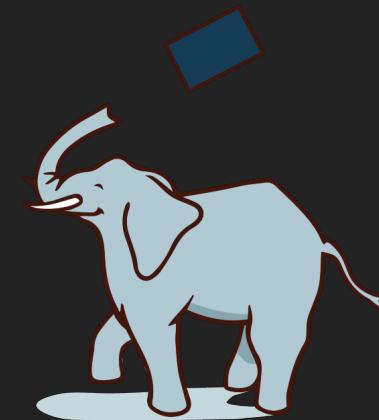
PACKAGING

DEPLOYMENT

MODEL SERVING

mlflow

 **Kubeflow**



SPEED

INVISIBLE WORK

REDUCE WASTE

COLLABORATION

FAIL CULTURE

CI/CD BECOME CONTINUOS EVALUATION

OBSERVABILITY

TRACKING

SERVING



OSS!
DO NOT
REINVENT
THE WHEEL!



Thank you!



LINKIT
BUILDING IT TOGETHER



The great Logistics Team!

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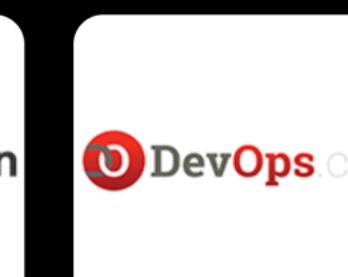
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