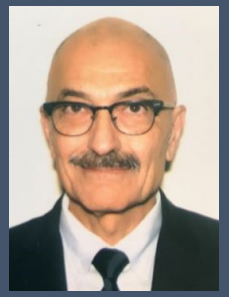
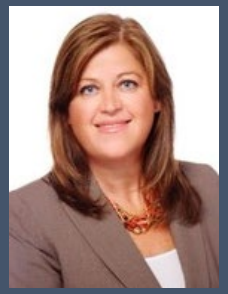
Financial Data Professional (FDP)
The *Global Designation* for Finance Professionals in a Data-Driven Industry

Nigel Noyes
Principal Data Scientist
Technology
ROCKET Mortgage by Quicken Loans



Mehrzad Mahdavi
Executive director, FDP Institute



Mirjam Dekker
PM
FDP Institute

The FDPi was created by CAIA to

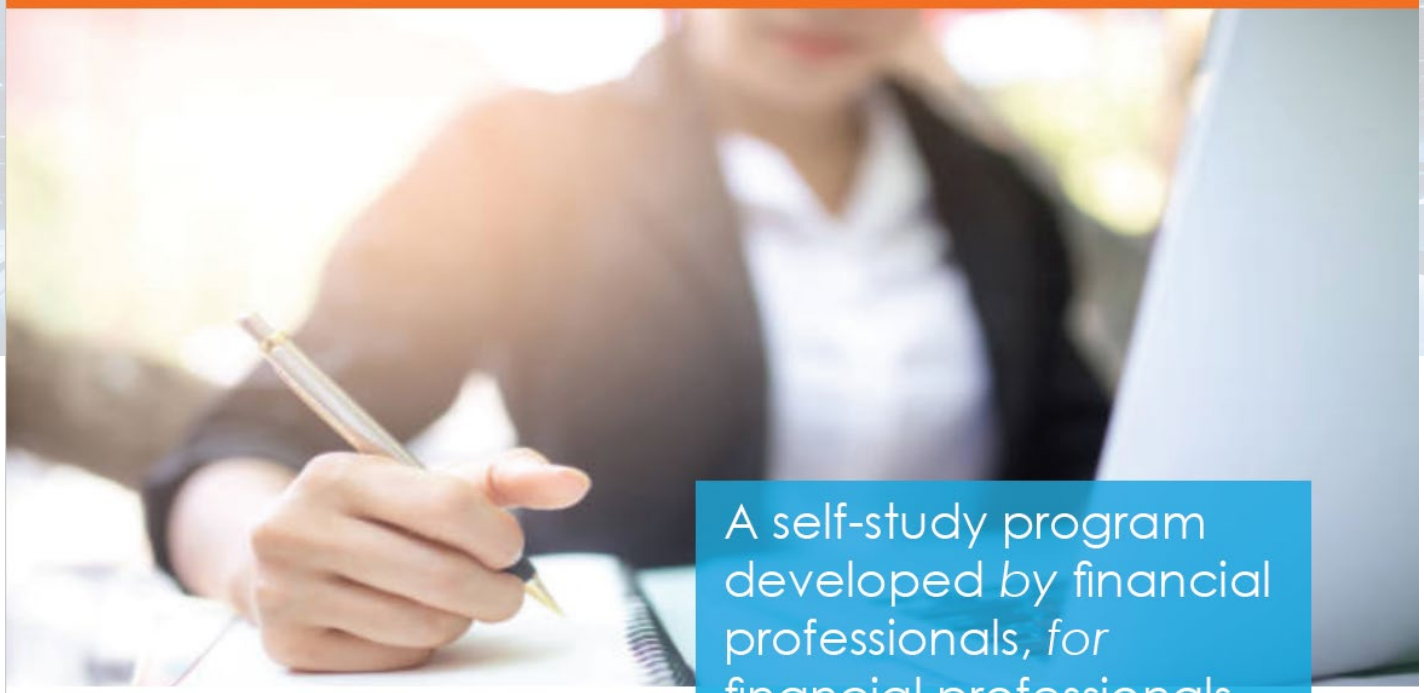
- ✓ Provide financial professionals with the knowledge necessary to succeed in an industry disrupted by the advent of big data and machine learning.
- ✓ Advocate for the highest levels of professional ethics and standards.
- ✓ Establish the FDP Charter as a global professional designation in the area of financial data science.

EARN YOUR FDP DESIGNATION
A globally-recognized charter is awarded to FDP charter holders

TWO ONLINE CLASSES*
Choose either Python or R
Can be completed before or after the exam

ONE COMPREHENSIVE EXAM
Offered twice per year
March & November

VALUE ADD
Employers increasingly seek to find professionals to have the skills to apply data science tools to solve their most challenging problems



A self-study program developed *by* financial professionals, *for* financial professionals.

FDP EXAM

1. Introduction to Data Science & Big Data
2. Machine Learning: Introduction to Algorithms
3. Machine Learning: Regression, Support Vector Machine & Time Series Models
4. Machine Learning: Regularization, Regression Trees, Random Forest & Overfitting
5. Machine Learning: Classification & Clustering
6. Machine Learning: Performance Evaluation, Backtesting & False Discoveries
7. Data Mining & Machine Learning: Naïve Bayes & Text Mining
8. Big Data & Machine Learning: Ethical & Privacy Issues
9. Big Data & Machine Learning in the Financial Industry

Exam candidates now **have one of two test options** for the FDP exam

Option 1: At a Prometric test center near you
Exam window: October 12 – November 8, 2020

Option 2: Through Remote proctoring from your home/office
Exam Day: December 1, 2020

Learn more at **www.fdpinstitute.org**

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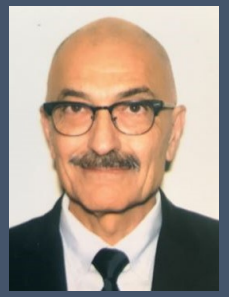

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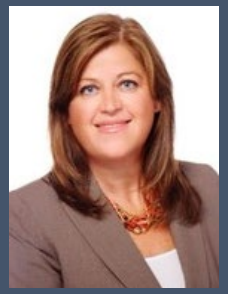

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data science

pathways to production

Principal Data Scientist

Technology

ROCKET Mortgage
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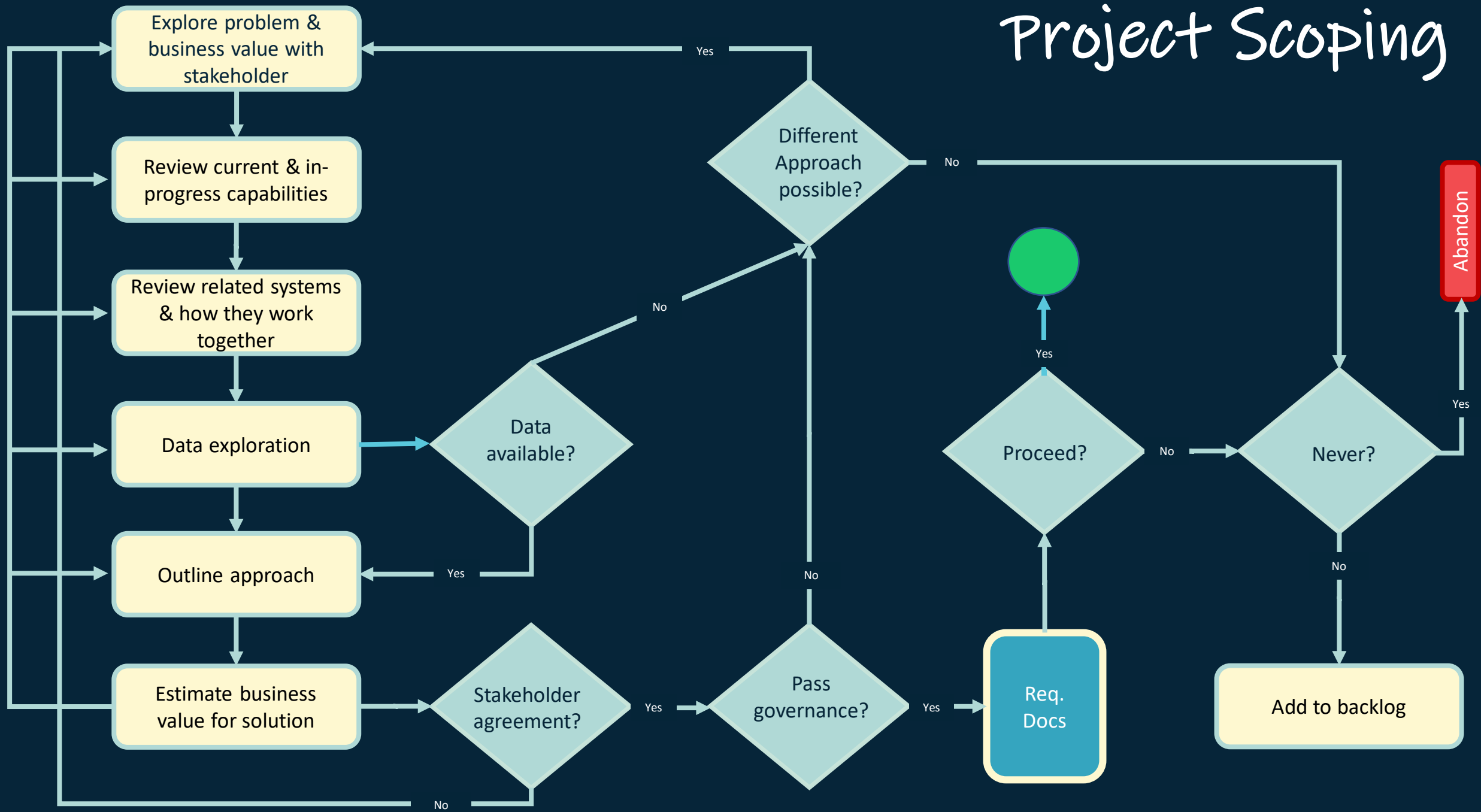
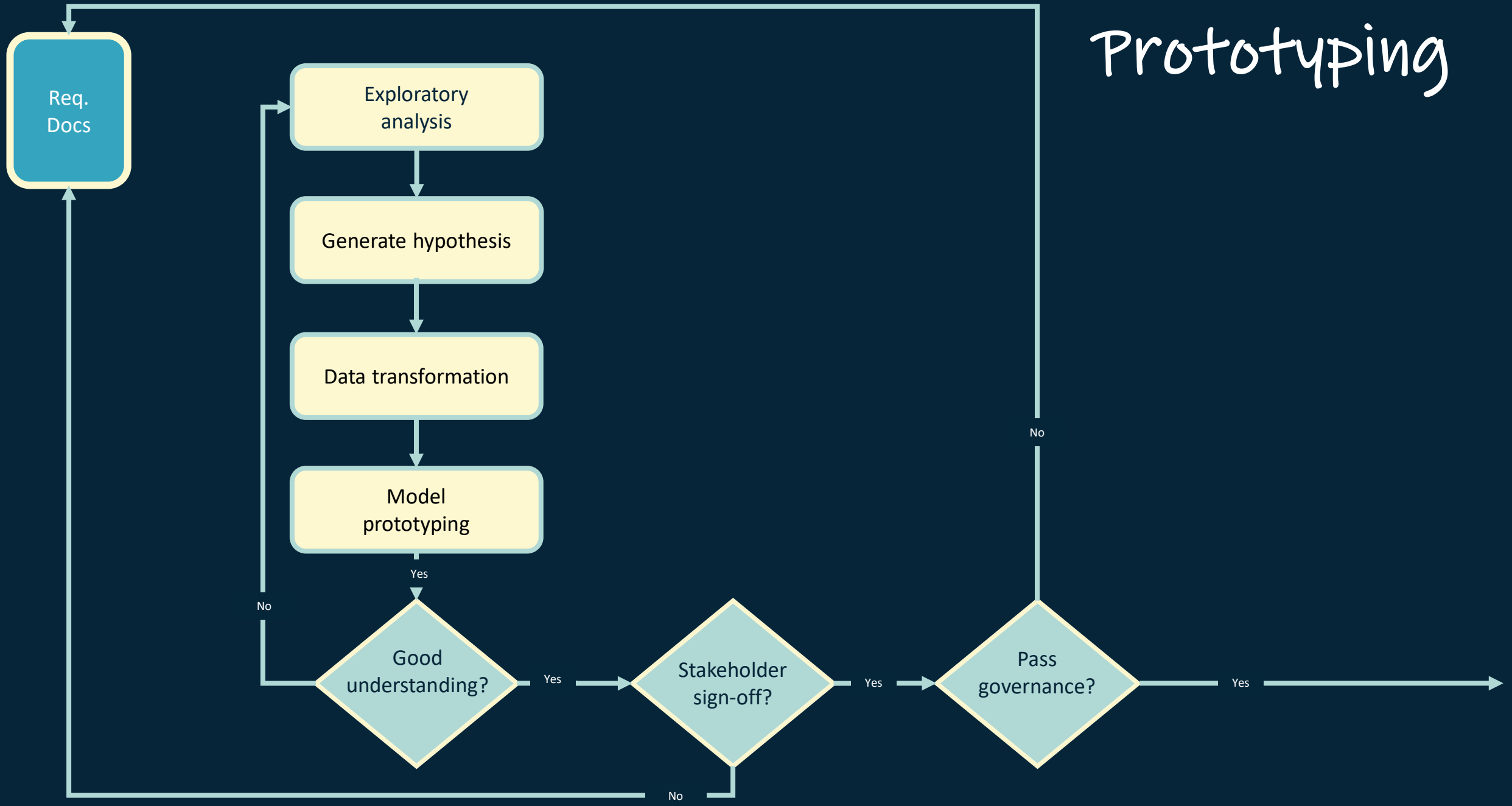
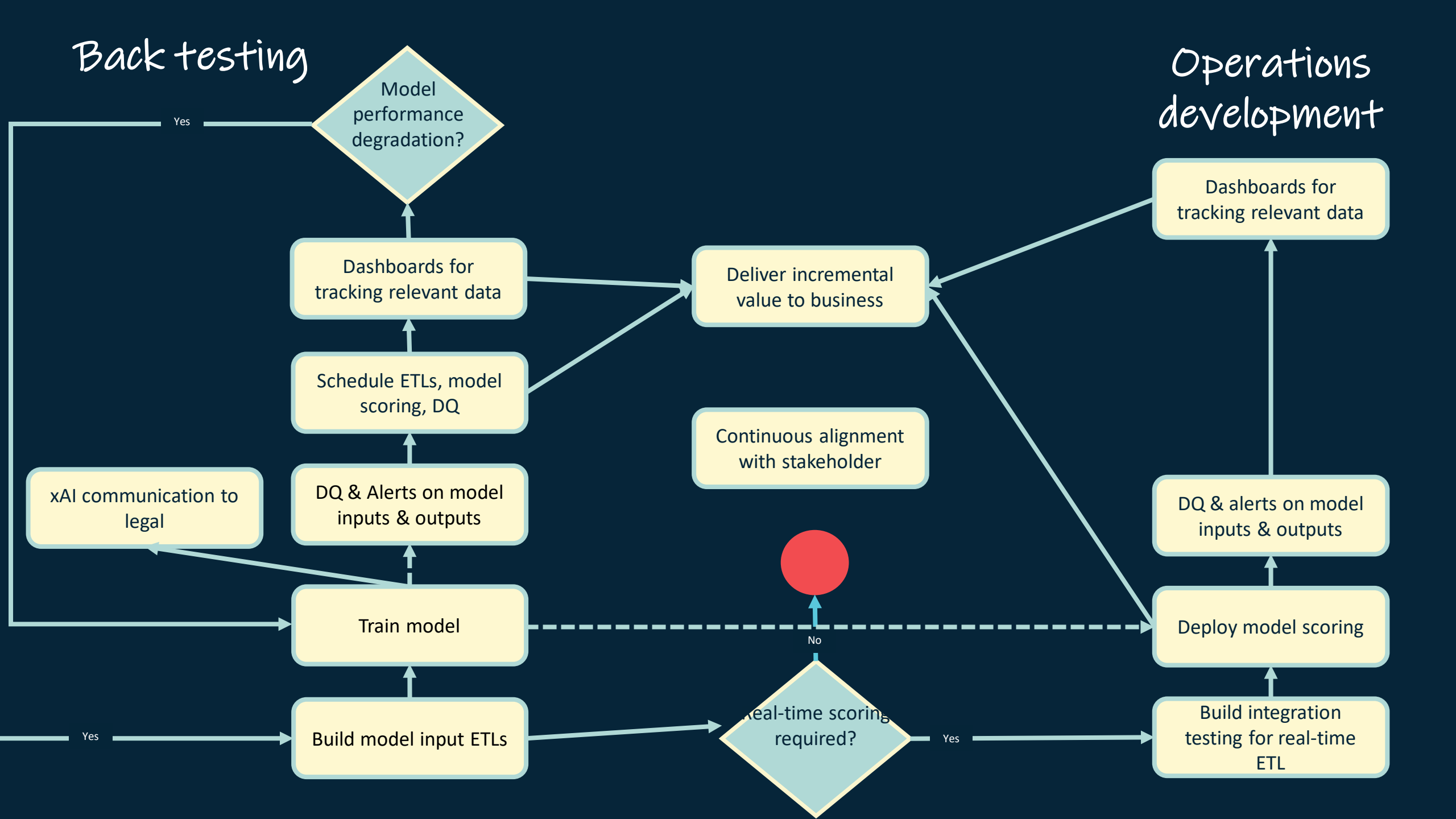
considerations
before
starting

Project Scoping

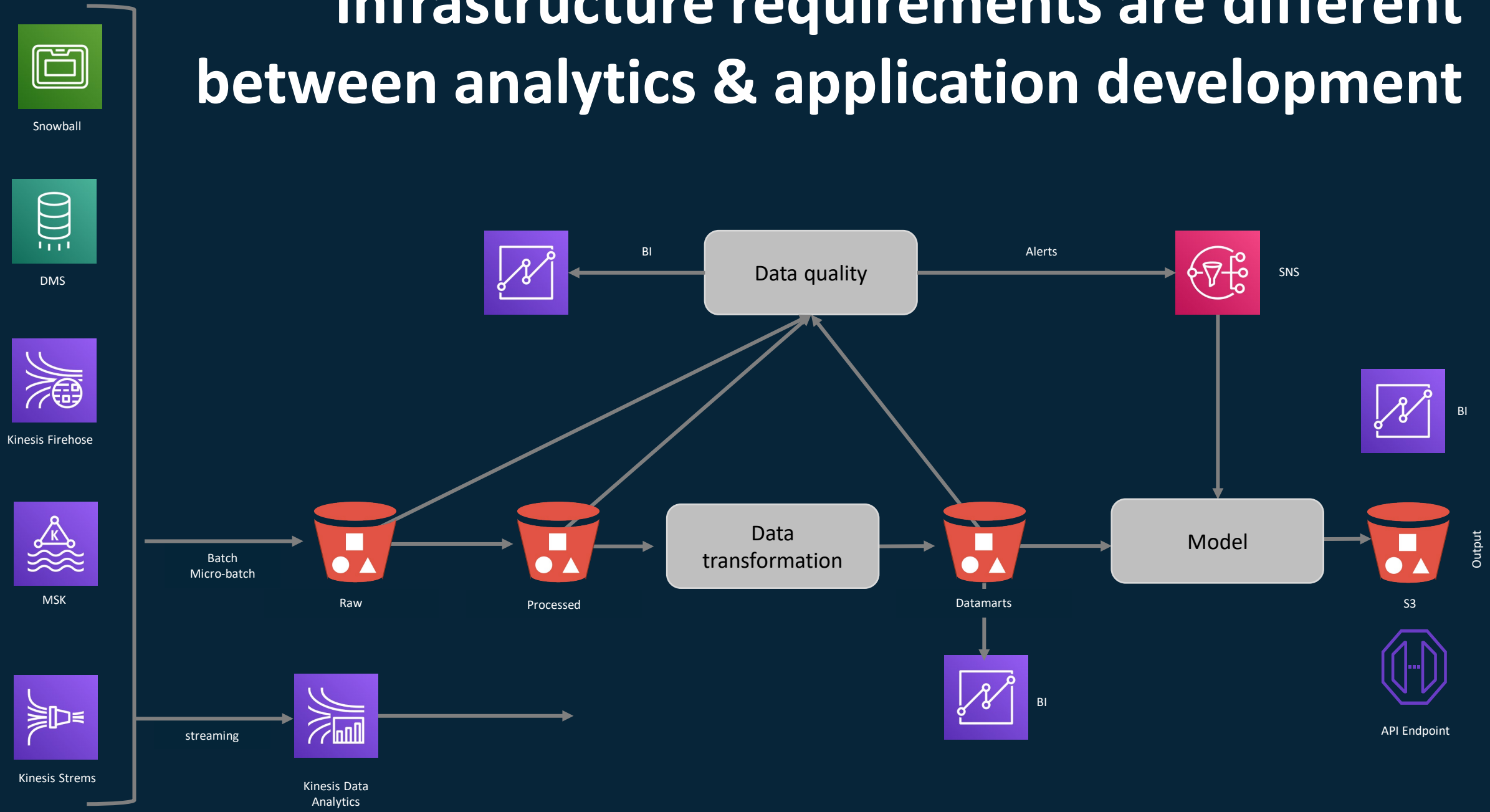


Prototyping

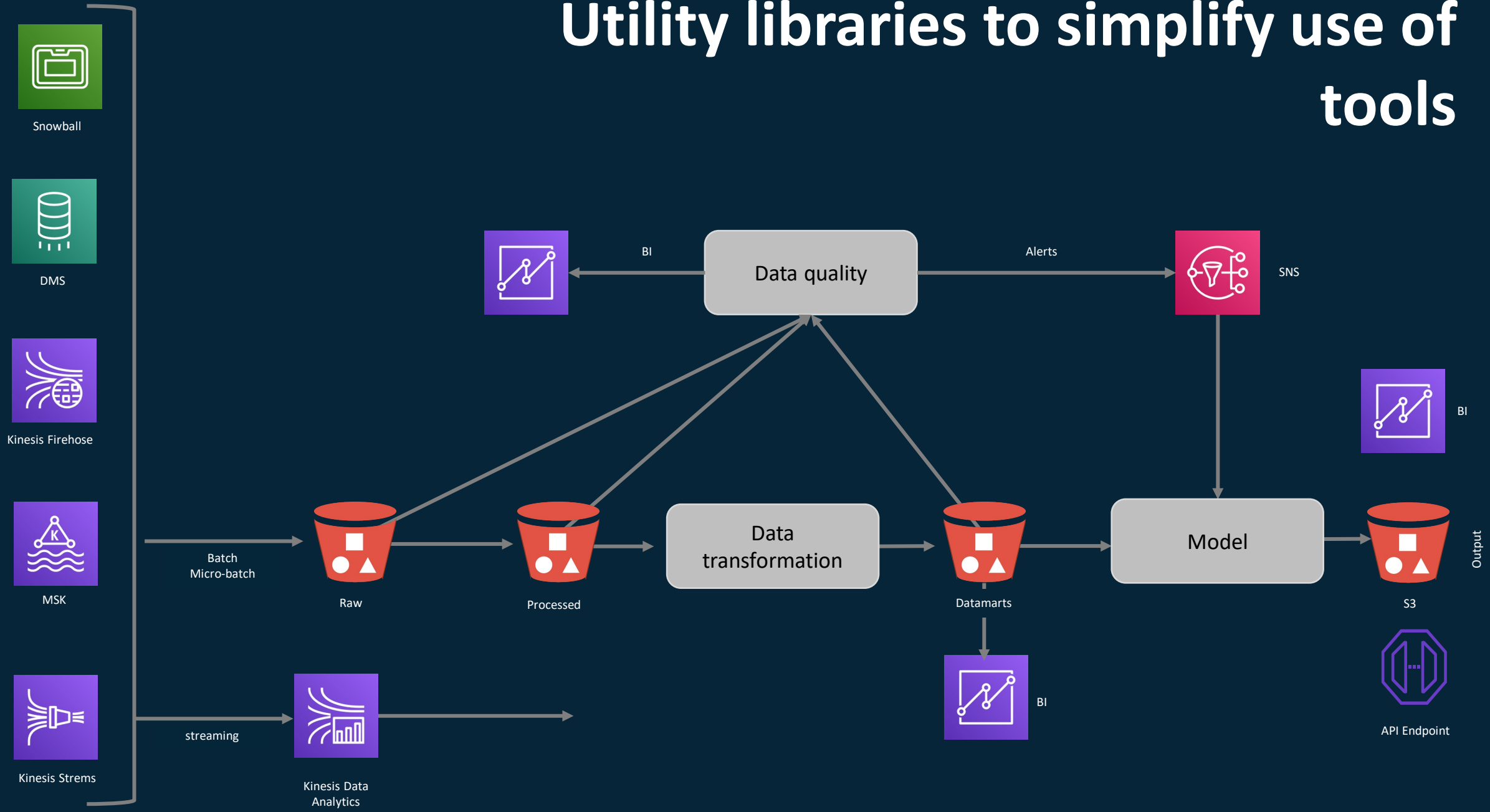



Back testing
Operations development
Model performance degradation?
Yes
Dashboards for tracking relevant data
Schedule ETLs, model scoring, DQ
DQ & Alerts on model inputs & outputs
xAI communication to legal
Train model
Build model input ETLs
Yes
Deliver incremental value to business
Continuous alignment with stakeholder
Dashboards for tracking relevant data
DQ & alerts on model inputs & outputs
Deploy model scoring
No
eal-time scoring required?
Yes
Build integration testing for real-time ETL

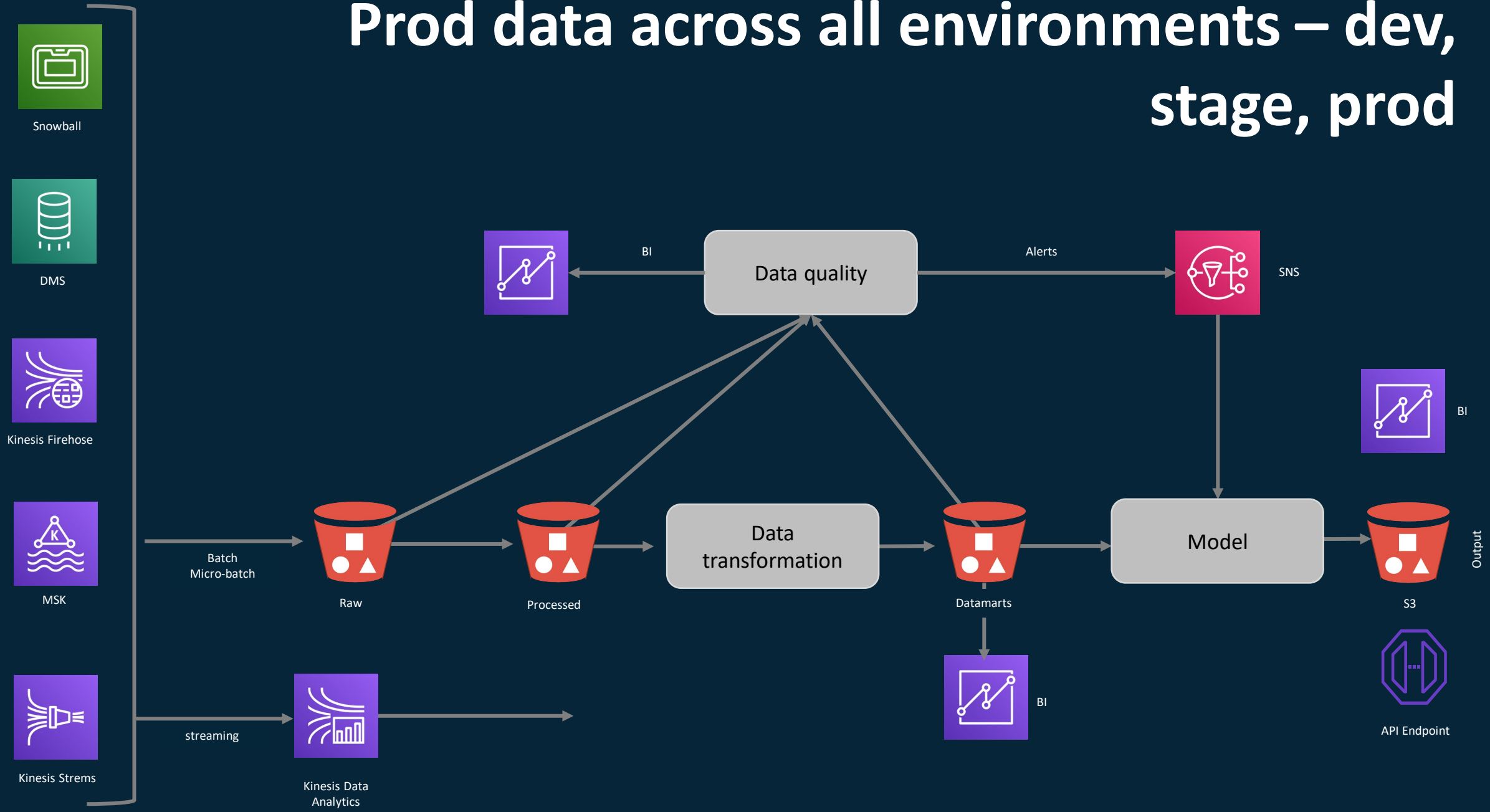
Infrastructure requirements are different between analytics & application development



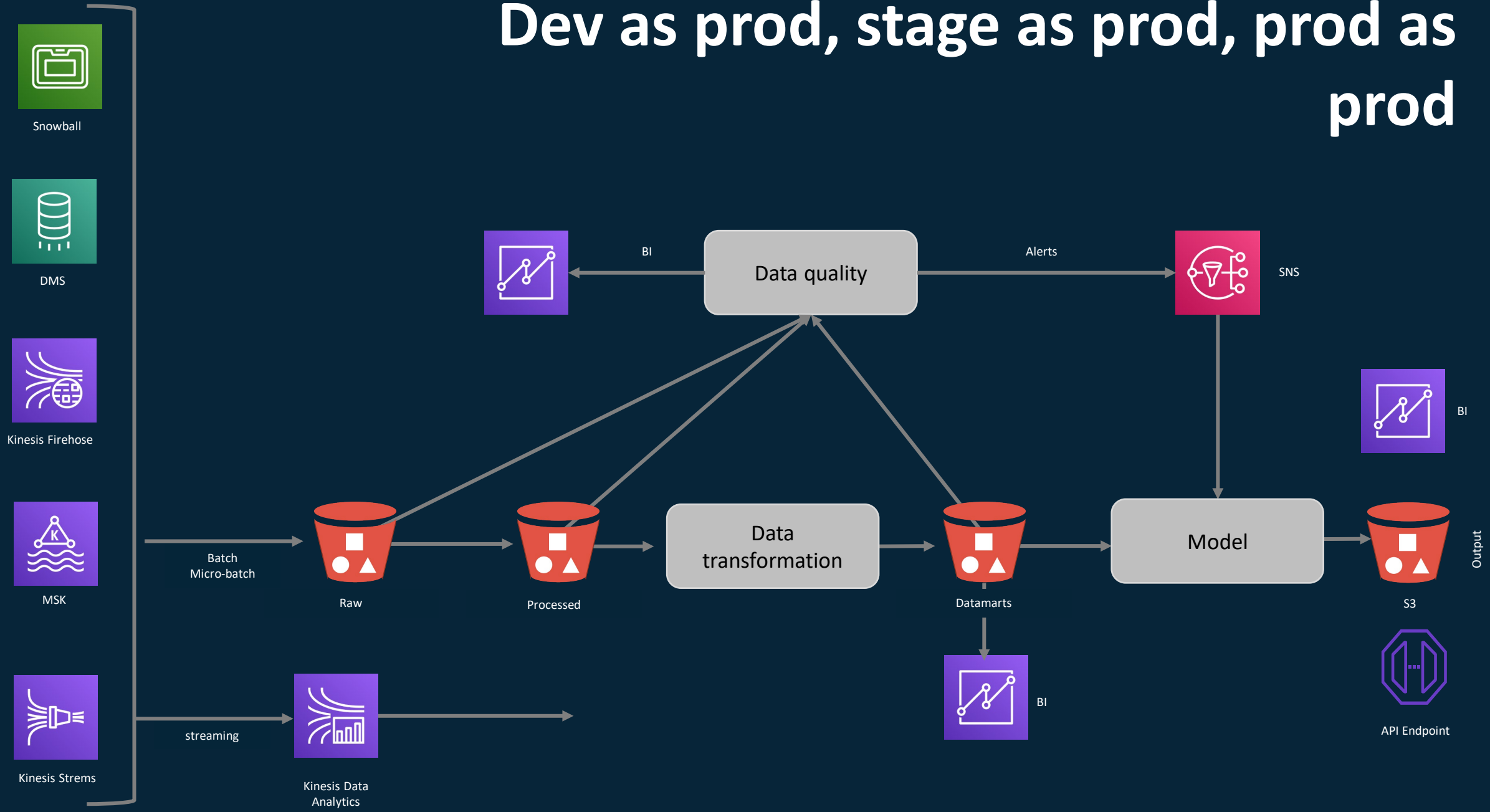
Utility libraries to simplify use of tools



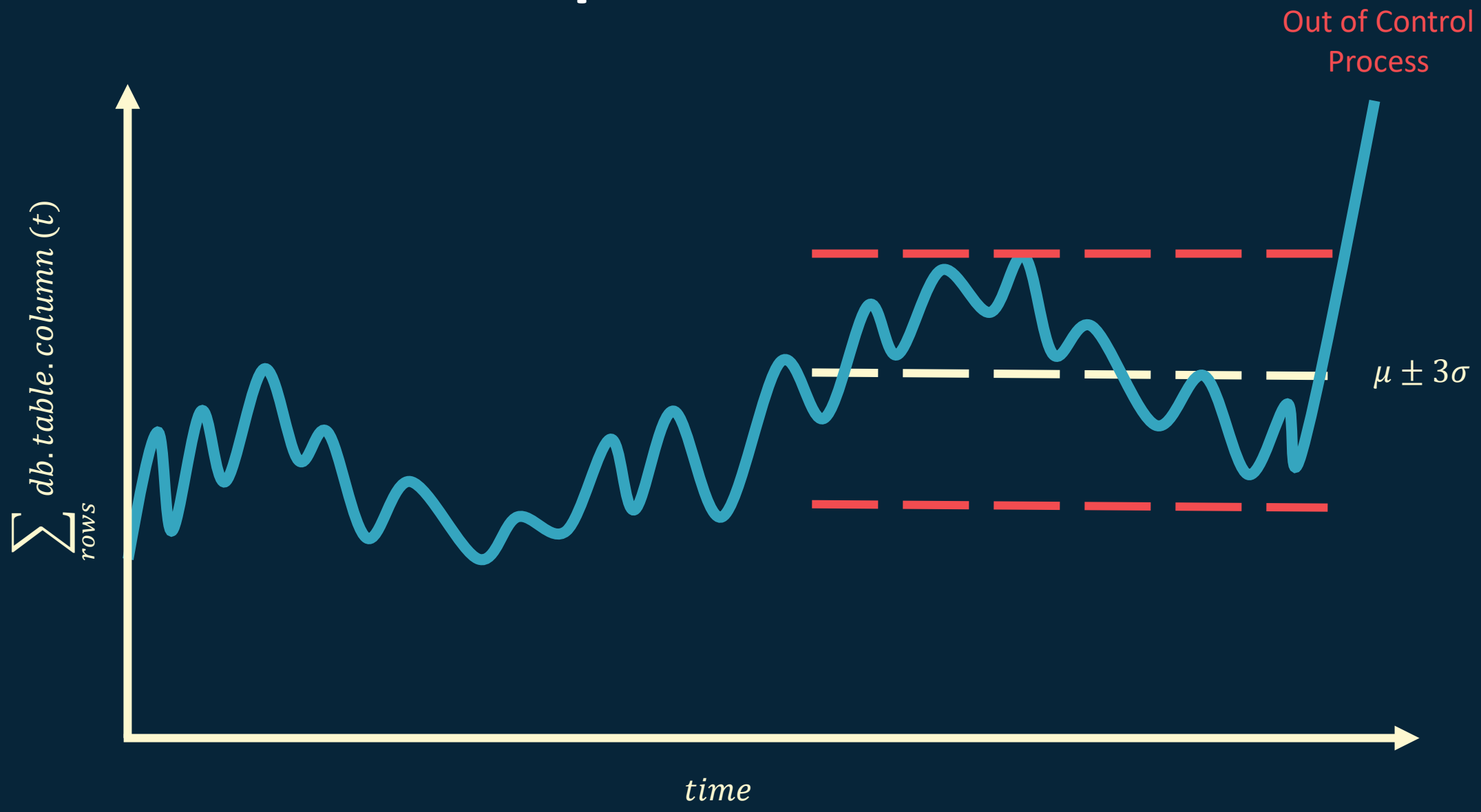
Prod data across all environments – dev, stage, prod



Dev as prod, stage as prod, prod as prod

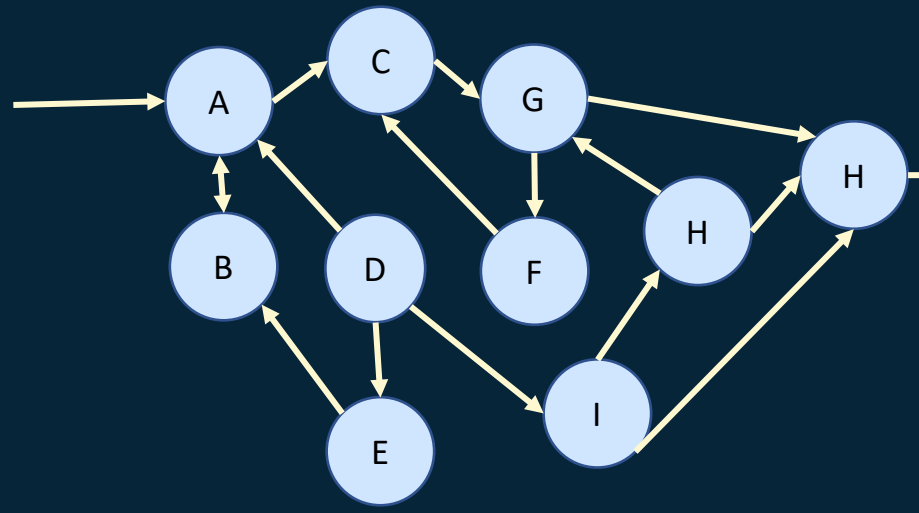


Data as a controlled process

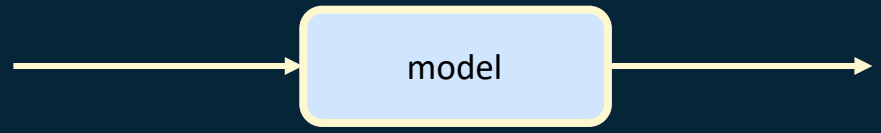


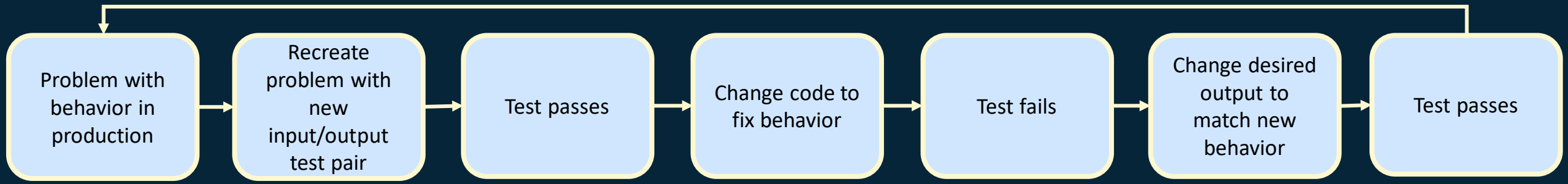
Regression Testing

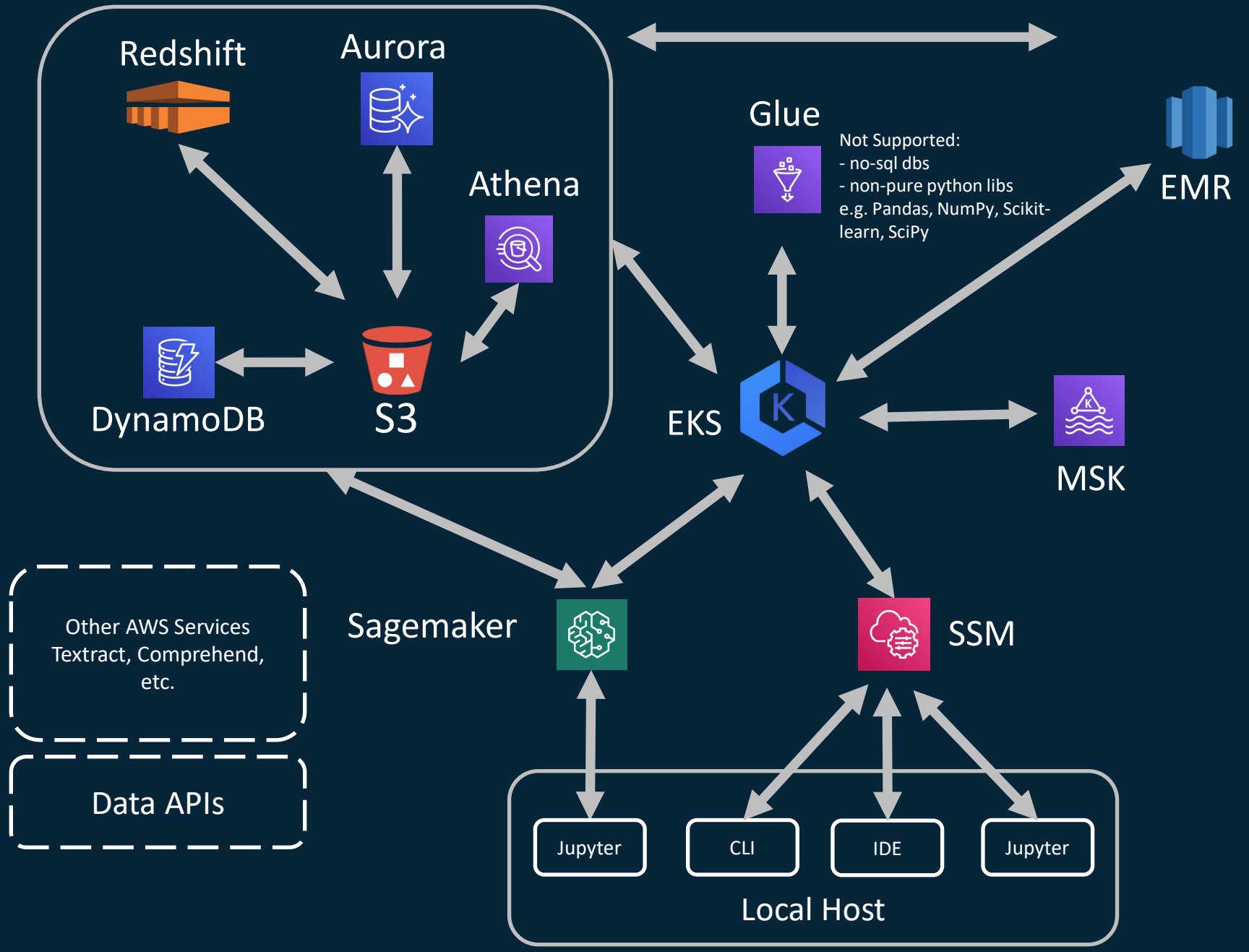
Input
Cow goes moo
Sheep goes baa
Cat goes woof
Horse goes meow
Dog goes woof



Actual	Desired	Pass/Fail
True	True	Pass
True	True	Pass
False	False	Pass
True	False	Fail
False	True	Fail







EMR

1. Inject account secret
2. Pre-built base images
3. Capability to add user specified libs
4. Choose cluster configuration
    a) Node types {A, B, C, D}
    b) Max # nodes = X
5. Spin down cluster after
    a) Job complete
    b) # hours, max = X hrs
6. Share cluster that is up for X hrs across specific TMs

EKS

1. Pre-built base container for data analytics work
2. Capability to add user specified libs
3. Inject account secret
4. Permission to exec into container CLI
5. Capability to run Jupyter server in container and access at localhost
6. Utility libraries to simplify Read/Write to
    a) S3
    b) Aurora
    c) DynamoDB
    d) Redshift

Other

1. Utility libraries across each AWS service to simplify use
2. A real-time messaging system (MSK, kinesis, kafka)
3. Sandbox, training, scoring, deployment accounts

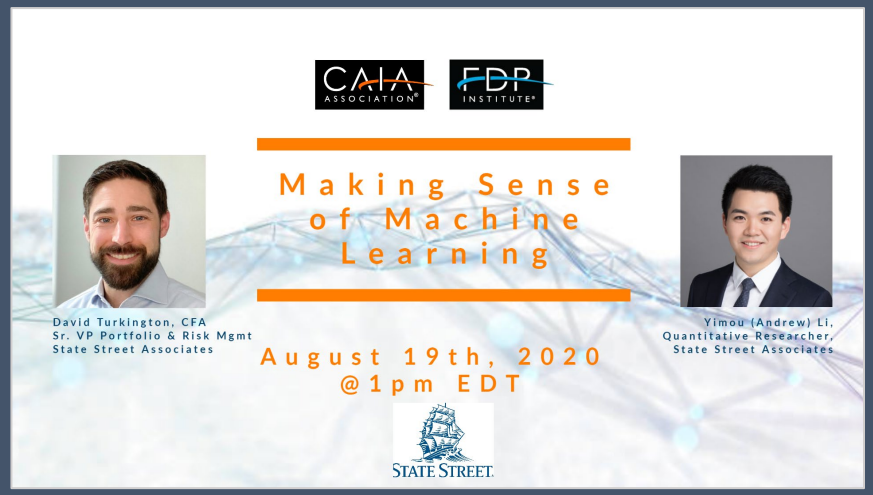
lessons
learned

Thank You!

Q & A

Add your questions to the chat room

Upcoming webinars – click on the webinar you are interested in and complete registration to attend



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In Closing

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