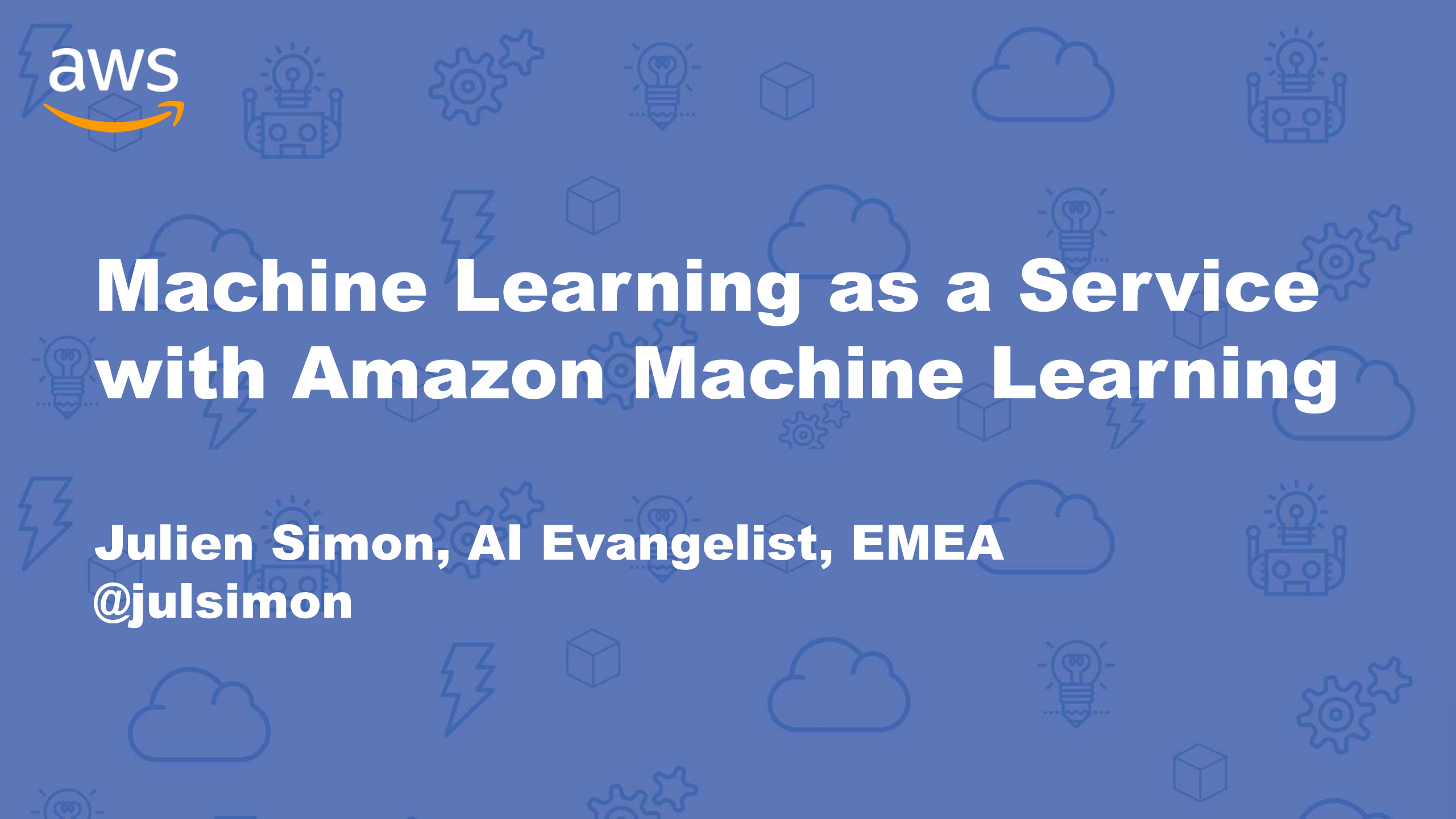


Machine Learning as a Service with Amazon Machine Learning

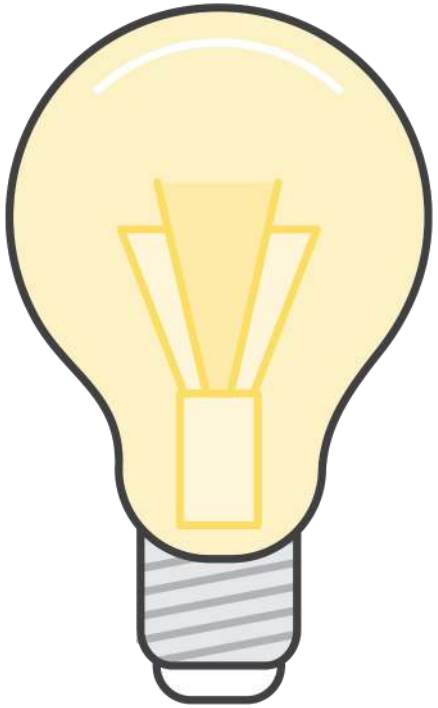
Julien Simon, AI Evangelist, EMEA
@julsimon

What to expect

- Amazon Machine Learning
- Use cases and architecture patterns
- Building models + demo
- Q&A

Amazon Machine Learning

Amazon ML



Easy to use, managed machine learning service built for developers

Robust, powerful machine learning technology based on Amazon’s internal systems

Create models using your data already stored in the AWS cloud

Deploy models to production in seconds

Easy to use and developer-friendly

Use the intuitive service console to build and explore your initial models

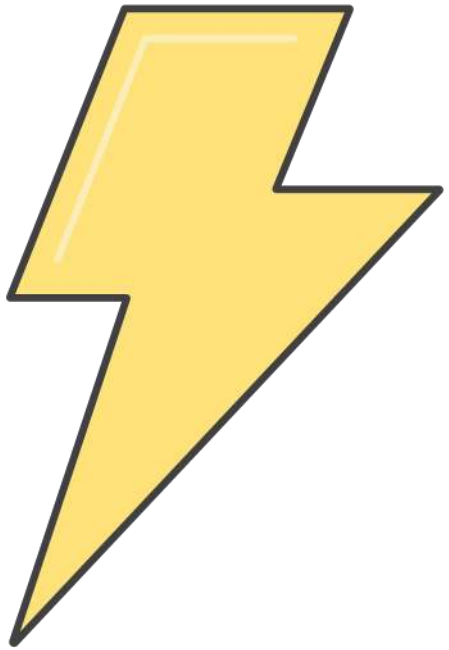
- Data retrieval
- Model training, quality evaluation, fine-tuning
- Deployment and management

Automate model lifecycle with fully featured APIs

- Java, Python, .NET, JavaScript, Ruby, PHP

Easily create smart iOS and Android applications with AWS Mobile SDK

Powerful machine learning technology



Based on Amazon’s battle-hardened internal systems

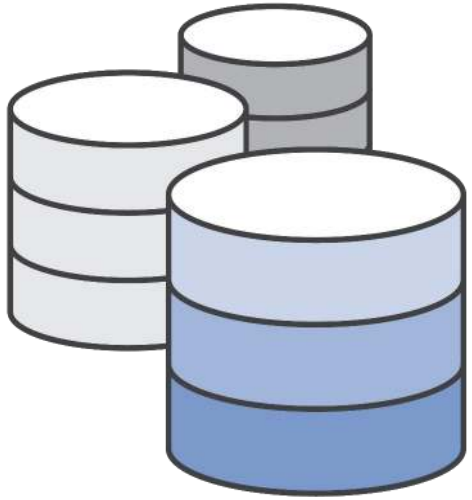
Not just the algorithms:

- Smart data transformations
- Input data and model quality alerts
- Built-in industry best practices

Grows with your needs

- Train on up to 100 GB of data
- Generate billions of predictions
- Obtain predictions in batches or real-time

Integrated with AWS data ecosystem

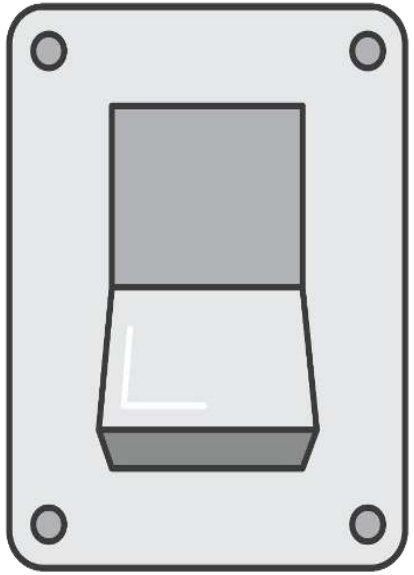


Access data that is stored in S3, Amazon Redshift, or MySQL databases in RDS

Output predictions to S3 for easy integration with your data flows

Use AWS Identity and Access Management (IAM) for fine-grained data-access permission policies

Fully managed prediction services



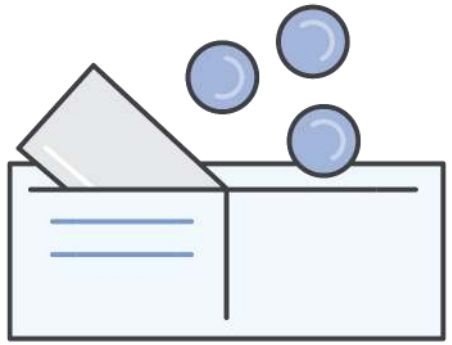
End-to-end service, with no servers to provision and manage

One-click production model deployment

Programmatically query model metadata to enable automatic retraining workflows

Monitor prediction usage patterns with Amazon CloudWatch metrics

Pay-as-you-go and inexpensive



Data analysis, model training, and evaluation:
$0.42/instance hour

Batch predictions: **$0.10/1000**

Real-time predictions: **$0.10/1000**

+ hourly capacity reservation charge

Fraud.net Uses AWS to Quickly, Easily Detect Online Fraud

> Amazon Machine Learning helps us reduce complexity and make sense of emerging fraud patterns.
>
> **Oliver Clark**
> CTO,
> Fraud.net

Fraud.net is the world's leading crowdsourced fraud prevention platform.

- Needed to build and train a larger number of more targeted machine-learning models
- Uses Amazon Machine Learning to provide more than 20 models
- Easily builds and trains models to effectively detect online payment fraud
- Reduces complexity and makes sense of emerging fraud patterns
- Saves clients $1 million weekly by helping them detect and prevent fraud

Upserve Uses AWS to Help Restaurants Predict Business

> Using Amazon Machine Learning, we can predict the total number of customers who will walk through a restaurant's doors in a night.
>
> **Bright Fulton**
> Director of Infrastructure Engineering,
>
> Upserve

Upserve provides online payment and analytical software to thousands of restaurant owners throughout the U.S.

- Needed its restaurant management platform to provide more predictive analytics
- Builds and trains more than 100 machine learning models weekly
- Streams restaurant sales and menu item data in real time
- Helps restaurateurs predict nightly business

Building models

Building models with Amazon ML

1

Train model

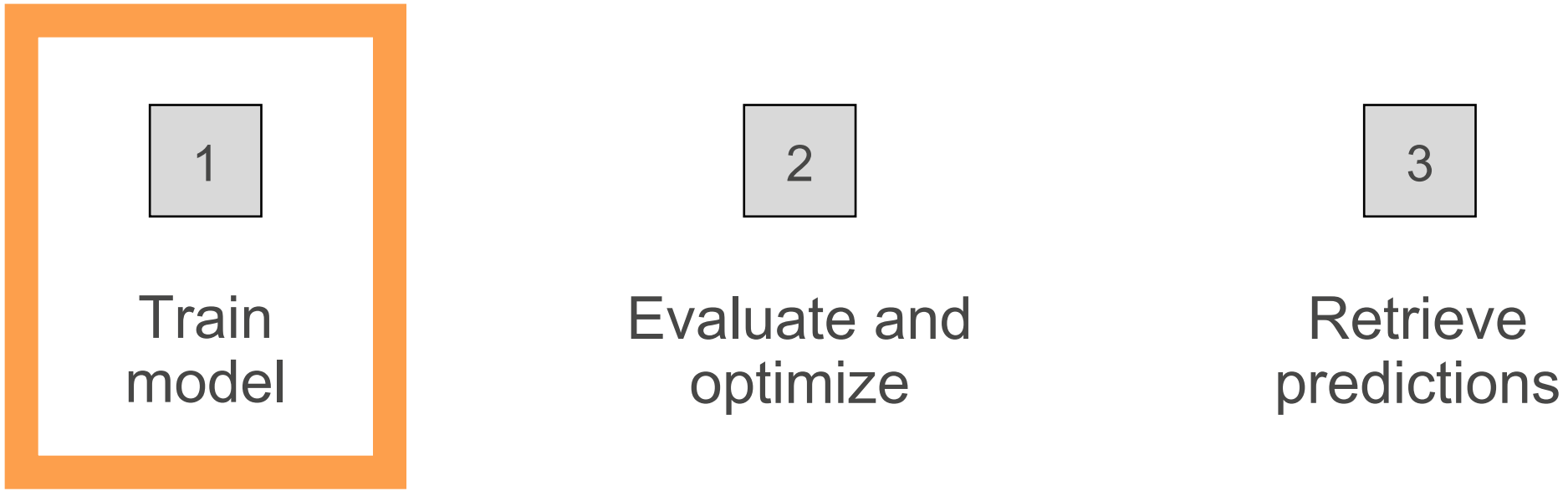
2

Evaluate and optimize

3

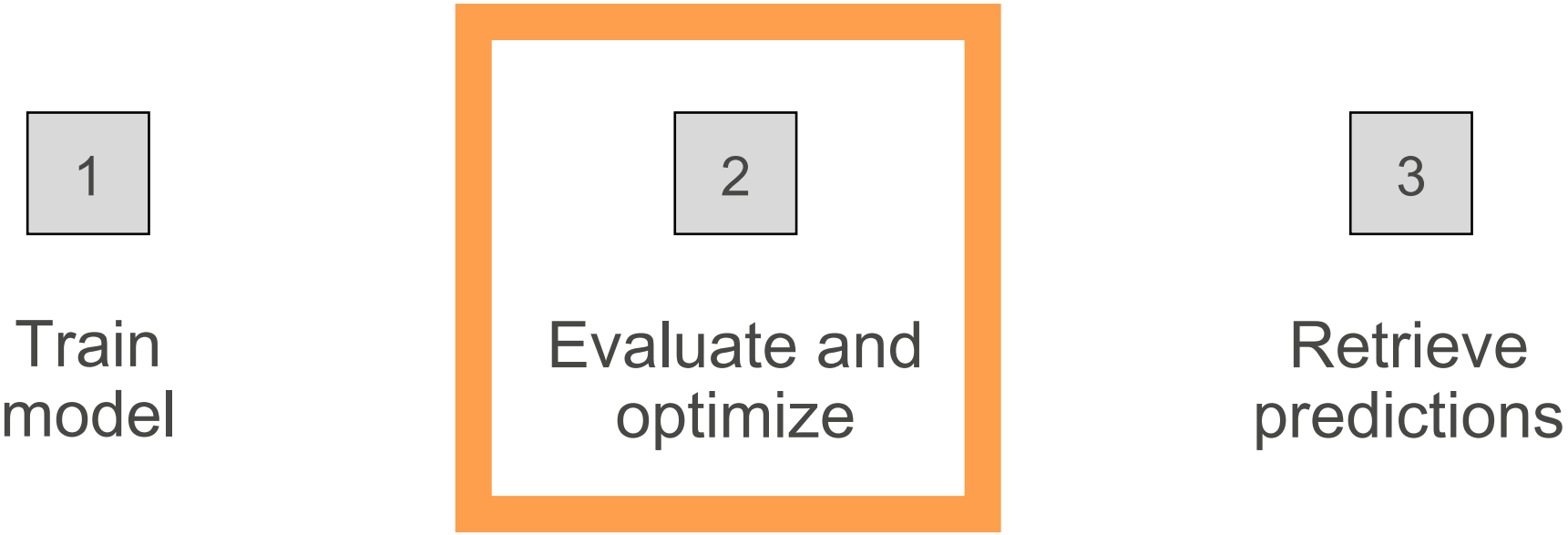
Retrieve predictions

Building models with Amazon ML



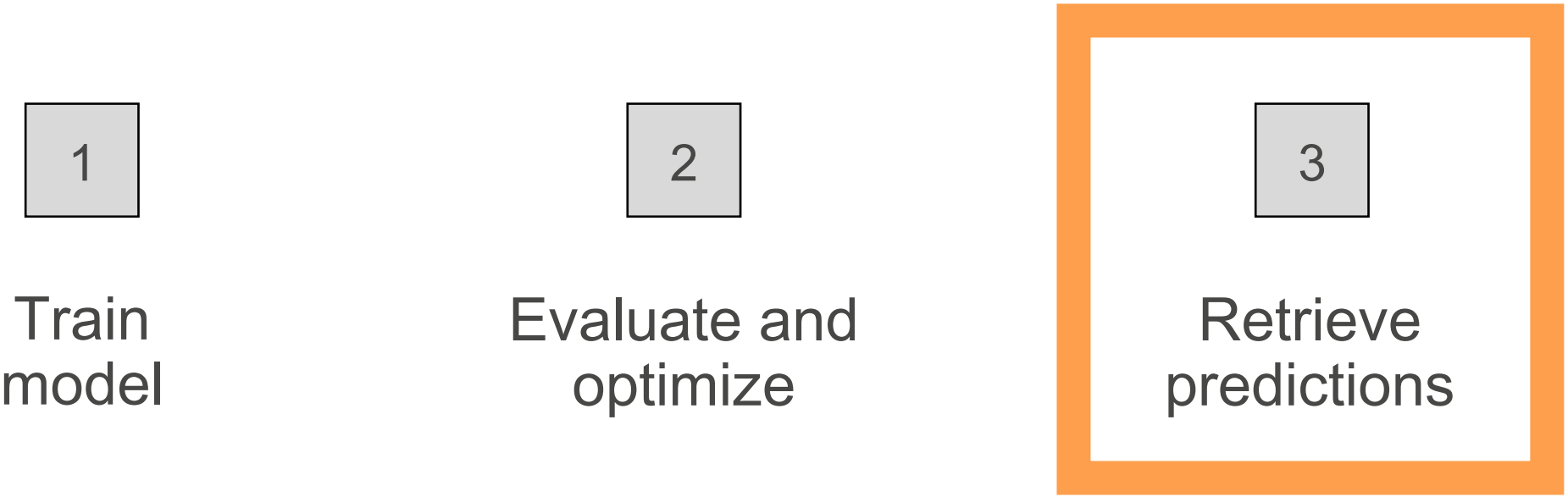
- Create a Datasource object pointing to your data
- Explore and understand your data
- Transform data and train your model

Building models with Amazon ML



- Understand model quality
- Adjust model interpretation

Building models with Amazon ML



- Batch predictions
- Real-time predictions

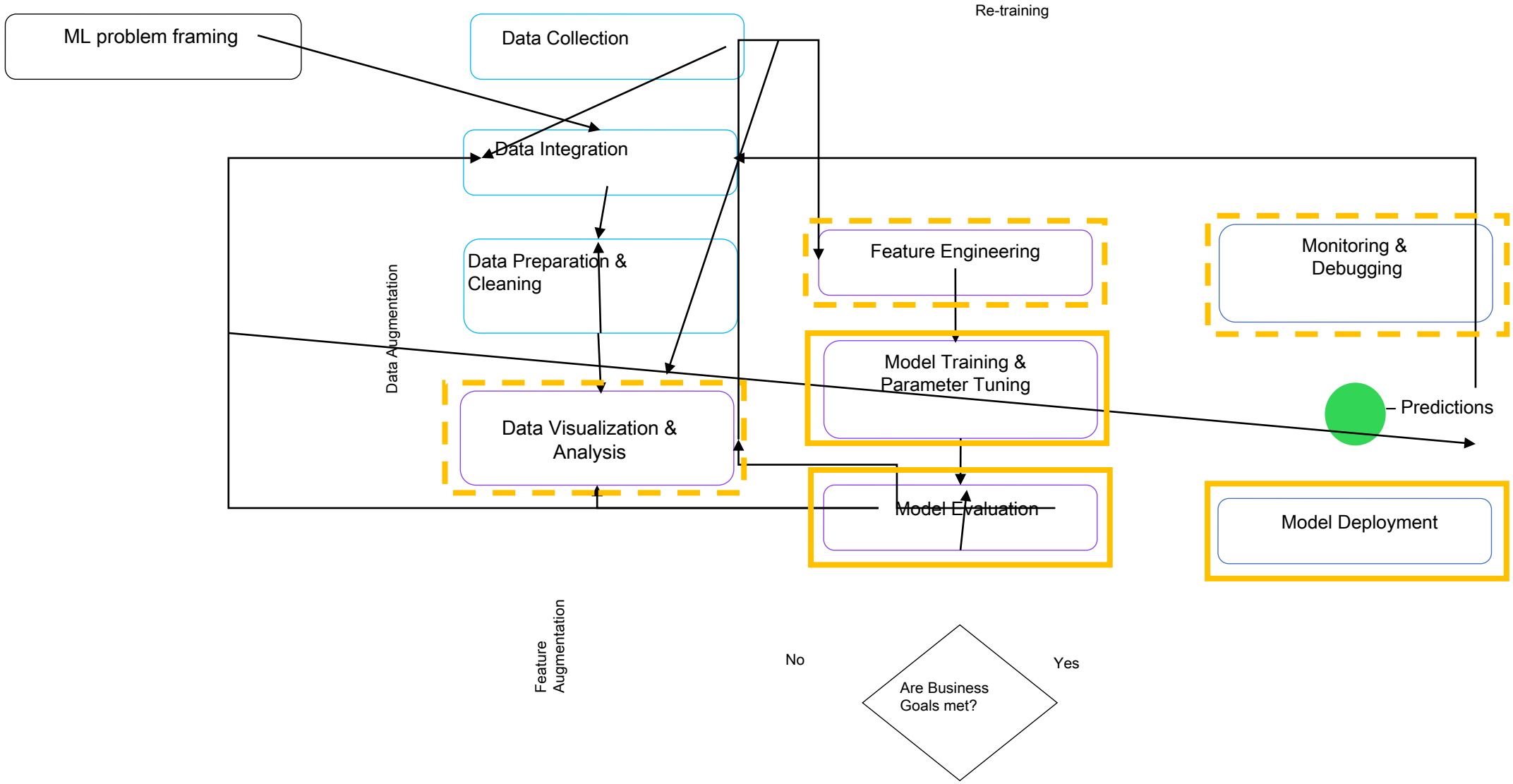
Demo

Linear Regression model with Amazon Machine Learning

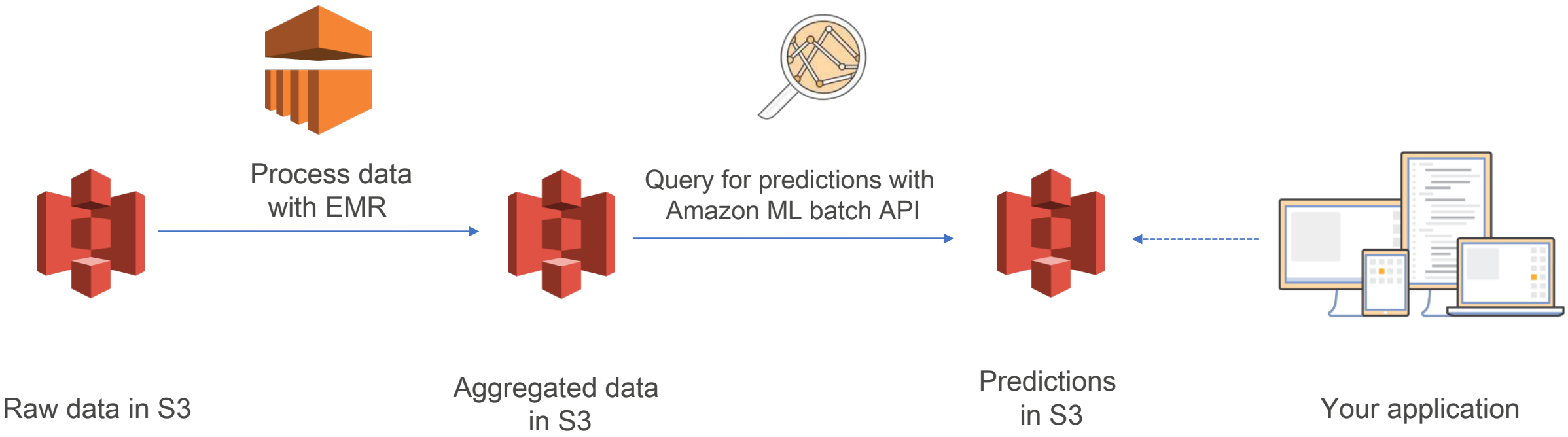
Architecture patterns

Business Problem

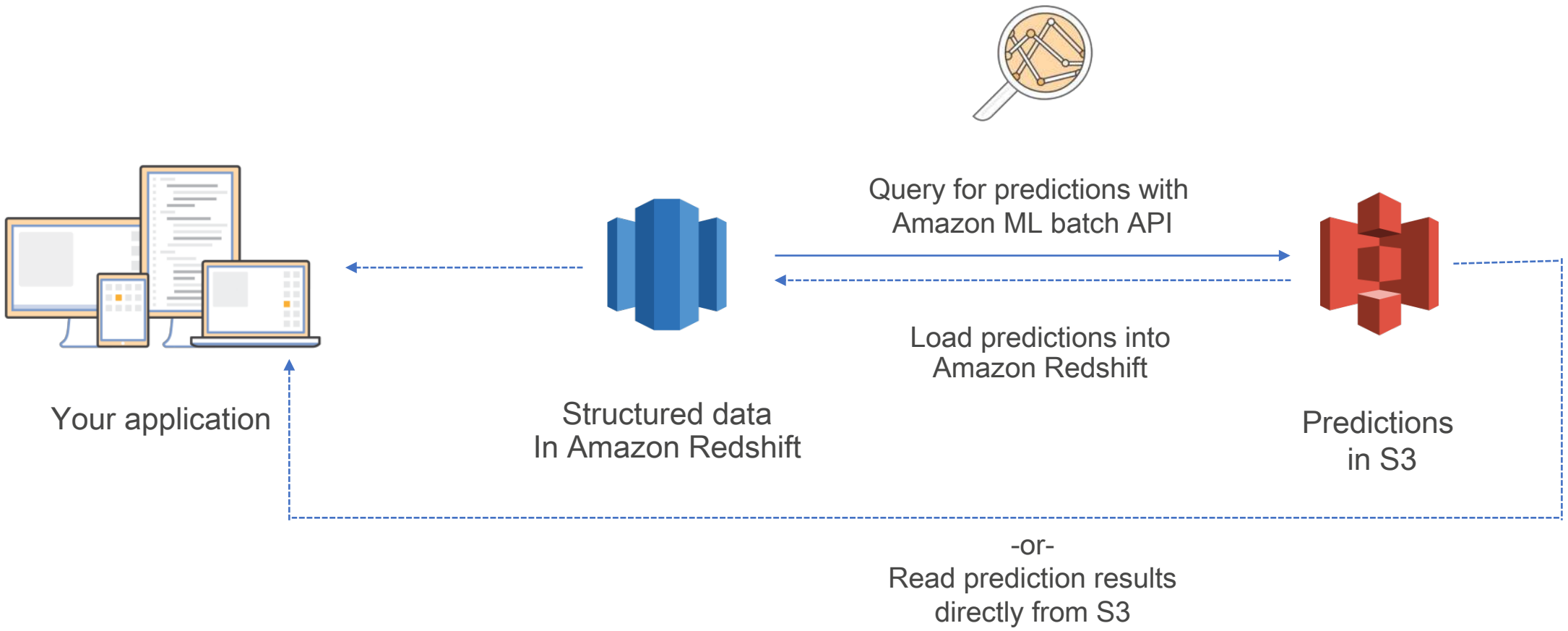
Scope of Amazon ML



Batch predictions with EMR



Batch predictions with Amazon Redshift

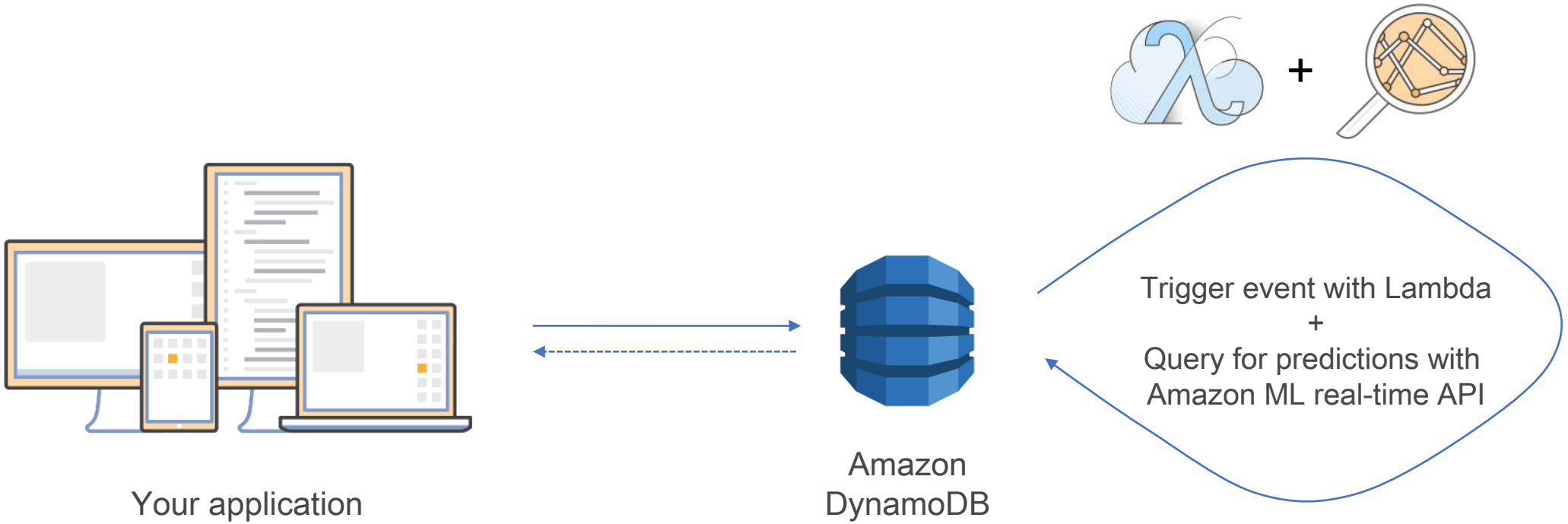


Real-time predictions for interactive applications

Your application

Query for predictions with
Amazon ML real-time API

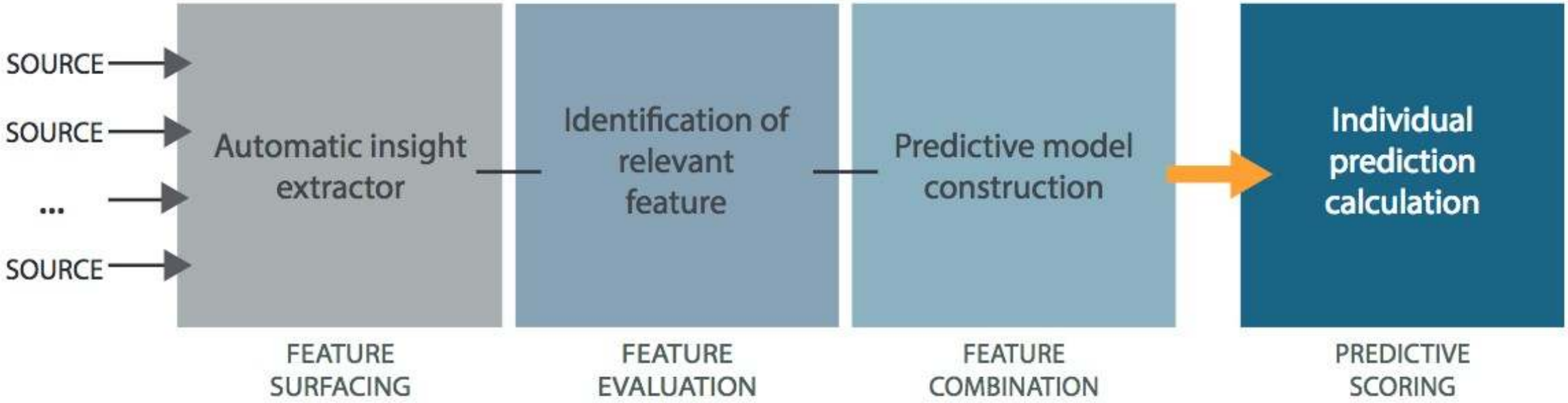
Adding predictions to an existing data flow



PredicSis

Predicsis.ai

End-to-end Machine Learning automation



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YOUR TEAM
YOUR DATA
YOUR INFRASTRUCTURE

awsmarketplace
Start for $8/hour, then scale

Resources

https://aws.amazon.com/aml/

https://aws.amazon.com/blogs/ai

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Thank you!

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