Explainable Monitoring
Using Fiddler and ONNX

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fiddler

AI teams are flying blind

TikTok

"…we **believe all companies** should disclose their algorithms, moderation policies, and data flows to regulators"

Kevin Mayer, Frmr. CEO

Model Transparency

FORTUNE

NEWSLETTERS • EYE ON A.I.

This is not a drill: The coronavirus pandemic is testing A.I.'s ability to handle extreme events

Model Drift

The New York Times

Apple Card Investigated After Gender Discrimination Complaints

Model Bias

The Washington Post

JPMorgan settles federal mortgage discrimination suit for $55 million

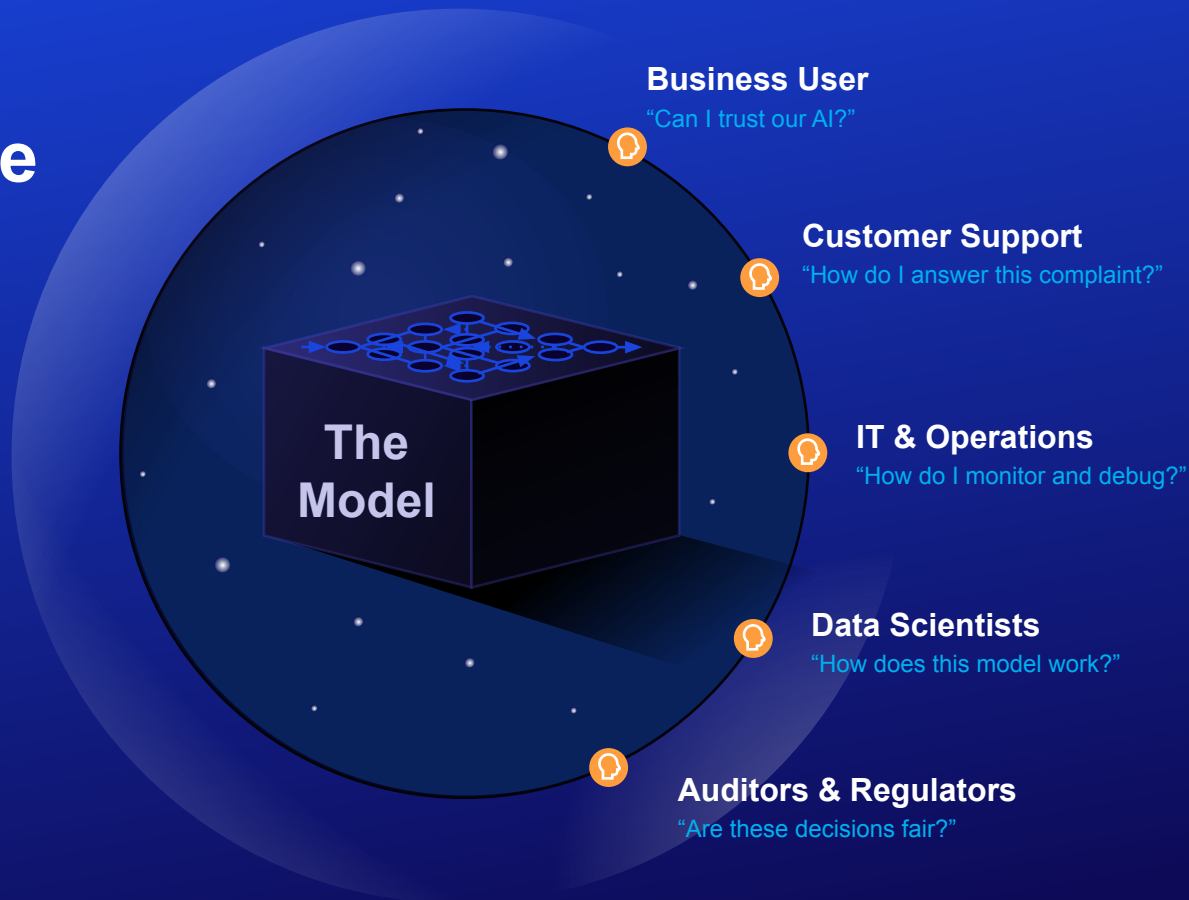**Model Compliance**

Fiddler-Proprietary

The Dark Truth About AI

Most models are a black box

No Visibility
into model performance

No Monitoring
to catch potential bias or drift

No Explanations
of model behavior

The Model

Business User
"Can I trust our AI?"

Customer Support
"How do I answer this complaint?"

IT & Operations
"How do I monitor and debug?"

Data Scientists
"How does this model work?"

Auditors & Regulators
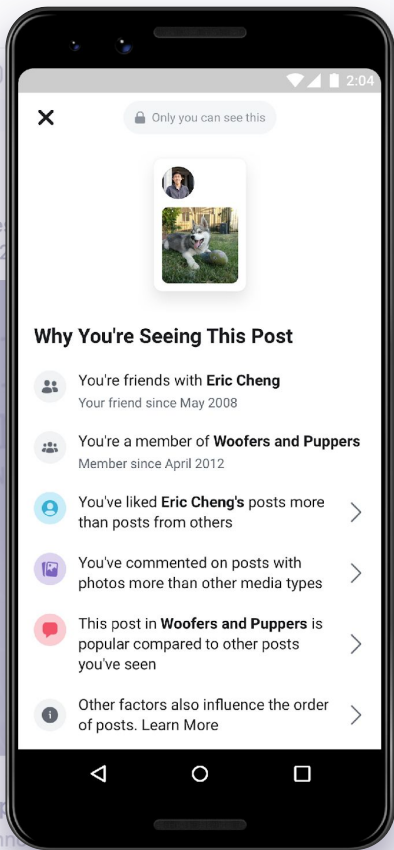"Are these decisions fair?"

THE LEADERSHIP TEAM

Pioneers of Explainable AI Platform

Led Newsfeed
Explainability

facebook

Krishna Gade

FOUNDER/ CEO

15 yrs of data/ML leadership

Pinterest

Amit Paka

FOUNDER/ CPO

15 yrs of product innovation leadership

SAMSUNG · PayPal

Manoj Cheenath

FOUNDER/ CHIEF ARCHITECT

20 yrs of infra architecture leadership

lyft · salesforce

Deeply Experienced Team with Enterprise DNA

facebook · lyft · confluent

NUTANIX · vmware

APPDYNAMICS · salesforce · Square

$14.2M raised in Seed & Series A

Lightspeed

LU+ · Haystack · Bloomberg BETA

alexa fund · LOCKHEED MARTIN · iqt

Fiddler-Proprietary

Phone screenshot overlay:

Only you can see this

Why You're Seeing This Post

You're friends with **Eric Cheng**
Your friend since May 2008

You're a member of **Woofers and Puppers**
Member since April 2012

You've liked **Eric Cheng's** posts more
than posts from others

You've commented on posts with
photos more than other media types

This post in **Woofers and Puppers** is
popular compared to other posts
you've seen

Other factors also influence the order
of posts. Learn More

The right solution is an "APM" for AI & ML

A System of Record for

Explainable Monitoring

What is happening? Why is it happening?

- Visibility across models
- Performance and bias monitoring
- Granular explanations of data & models
- Critical alerts and insights

Product Teams

HAVE TOOLS

DevOps Teams

HAVE TOOLS

AI & ML Teams

NEED TOOLS

Fiddler Illuminates the Black Box

Online

Streaming Data → Serving Pipeline → ML Model

Offline

Static Data → Training Pipeline → ML Model

fiddler

- Monitor
- Analyze
- Explain
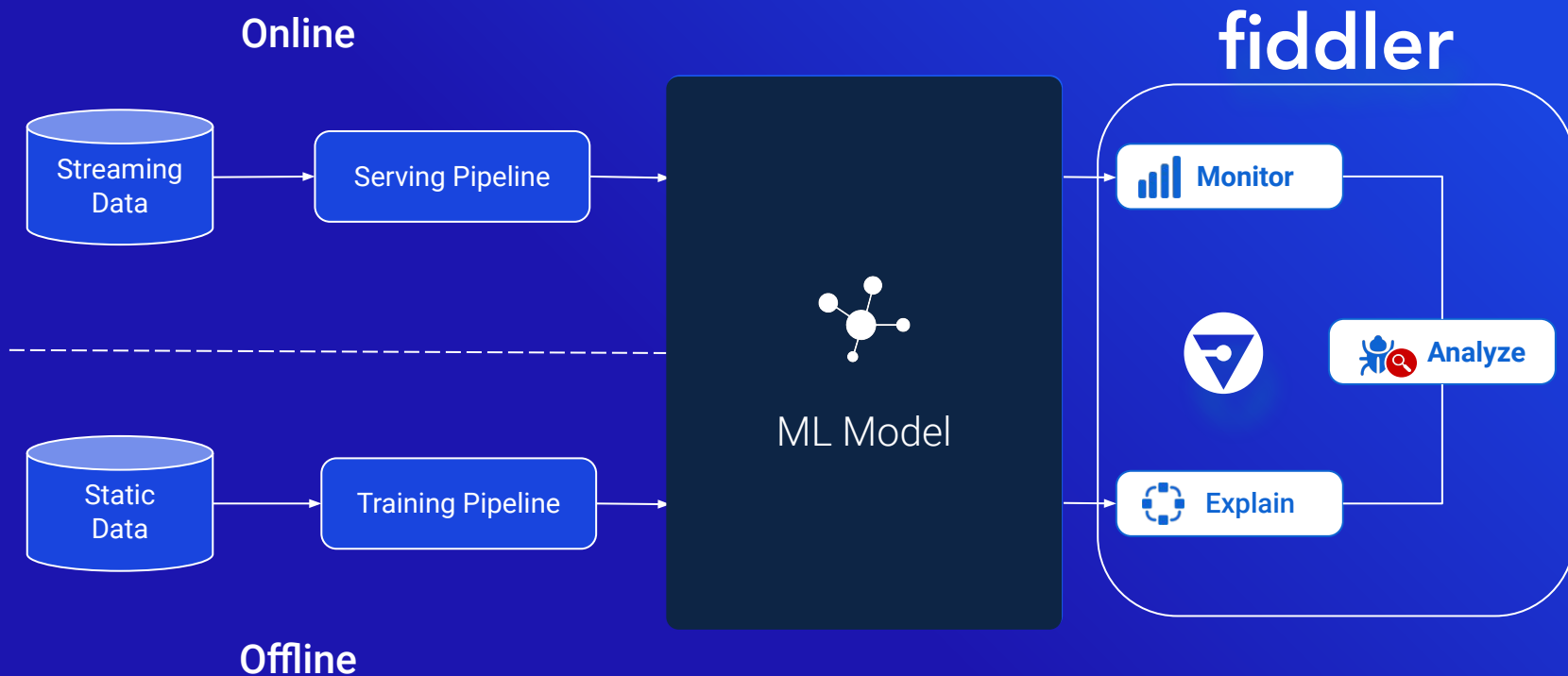
Problem: AI/ML models have version compatibility issues

Fiddler is building a platform for all model frameworks, but maintaining specific package versions is difficult.
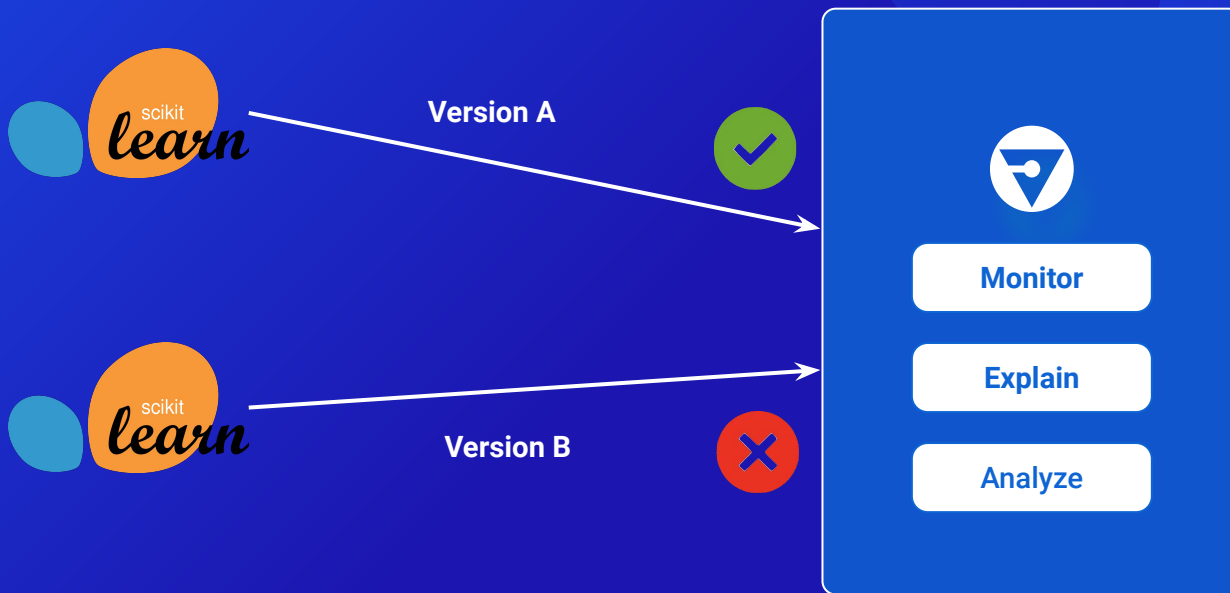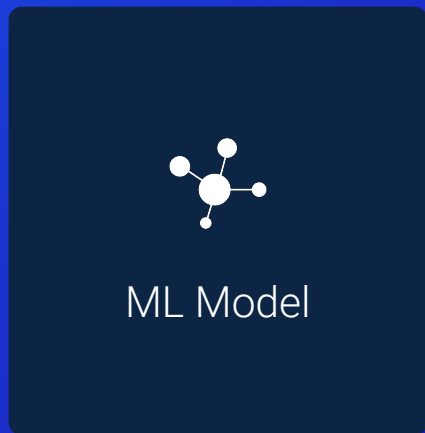
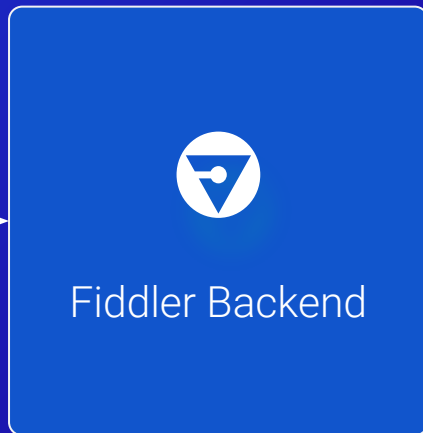**Solution:** utilize ONNX as a intermediate step in model ingestion
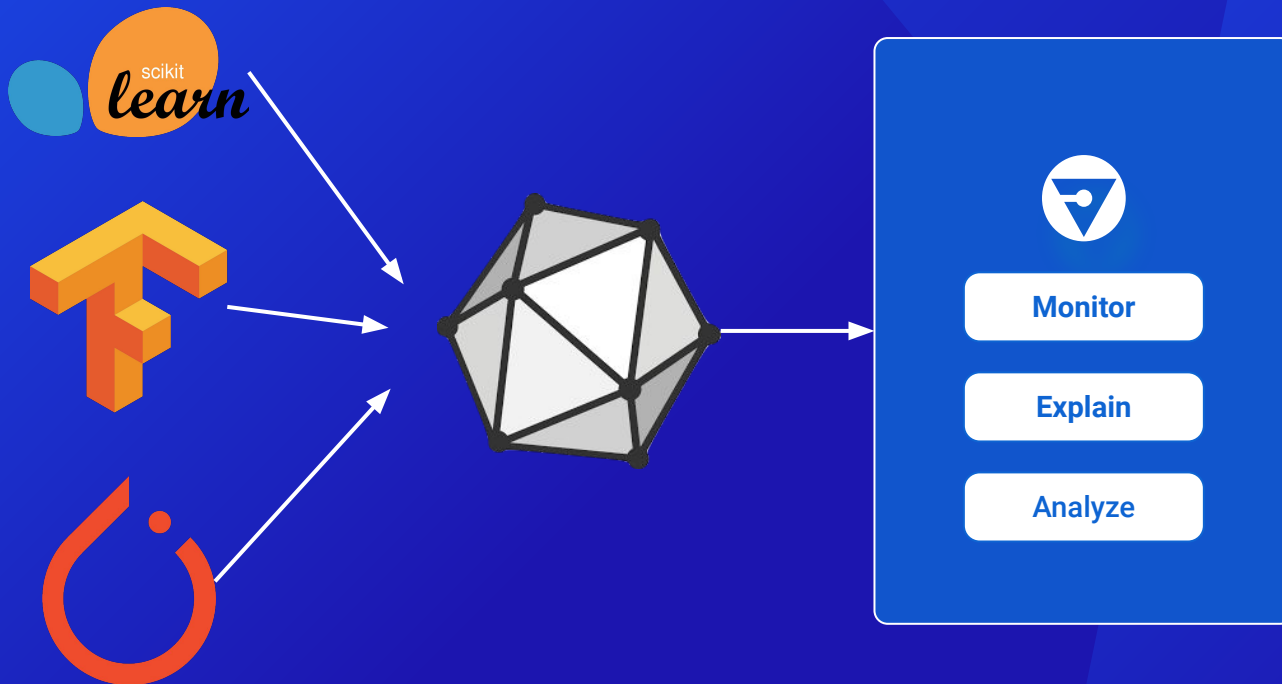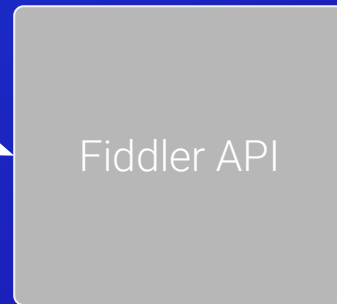
How Fiddler uses ONNX

Customers provide an ONNX model or use Fiddler package to auto-convert existing models

Fiddler's backend uses the ONNX runtime to serve models and predictions

Customers use Fiddler with no changes to their model experience.

ML Model

Fiddler Backend

Fiddler Frontend

Fiddler API

What's next for Fiddler and ONNX?

- Automated model conversions using Fiddler's SDK
  - Customers should be able to provide a model and its metadata, and be given an auto-generated ONNX model
- Continuing to add support for community driven model adapters
  - Expand beyond TF, SKlearn, and Pytorch
- Potential for custom model adapters