



INNOVATE

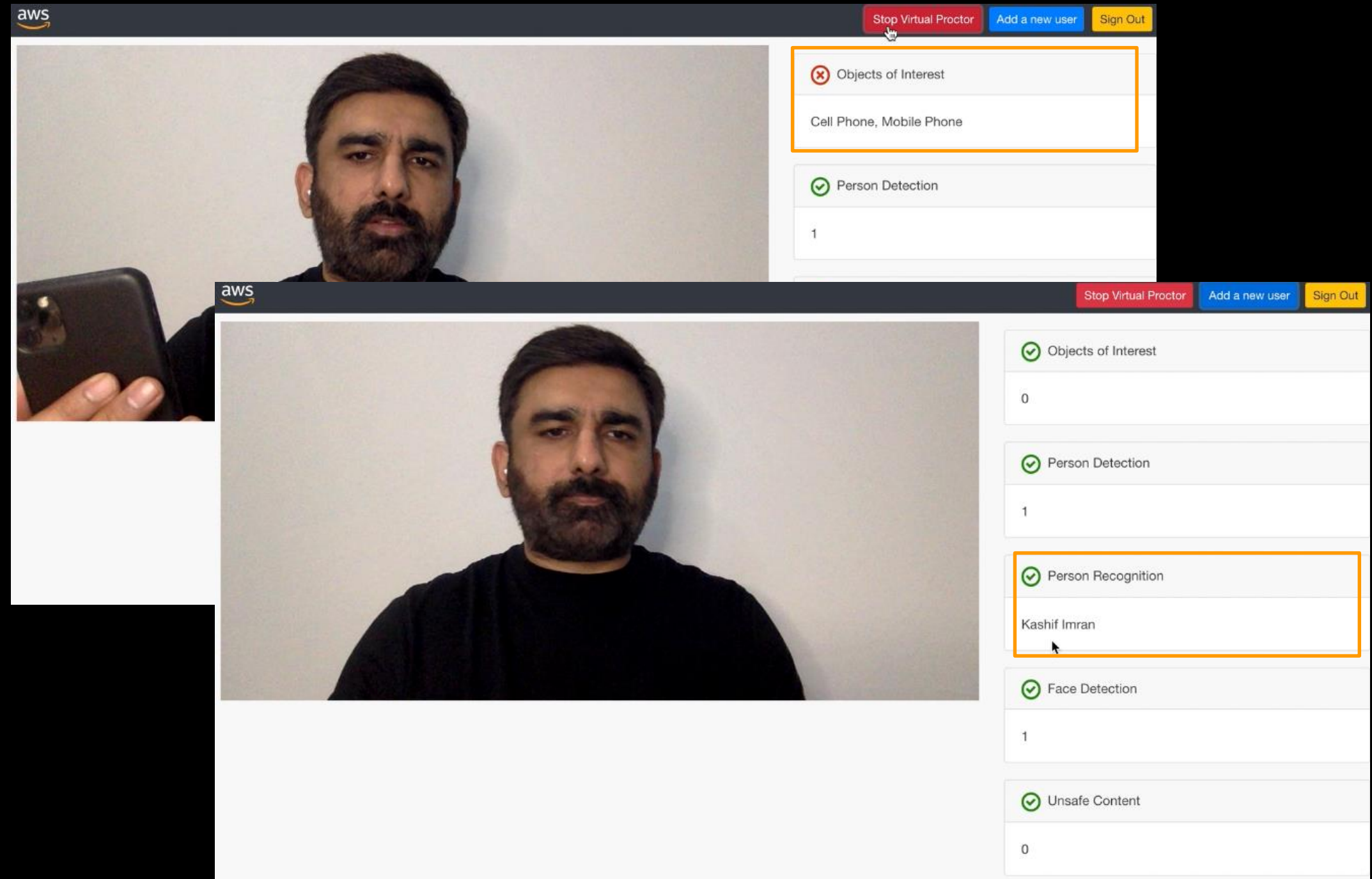
AI/ML EDITION

Identity verification using Amazon Rekognition

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Amazon Web Services AI

Agenda

- Amazon Rekognition
- Common applications
- Identity verification



Amazon Rekognition image and video



OBJECT, SCENE, AND ACTIVITY



CUSTOM LABELS



CONTENT MODERATION



TEXT



PPE DETECTION



FACE DETECTION AND ANALYSIS



FACE COMPARE & SEARCH



CELEBRITY RECOGNITION



VIDEO SEGMENTS



LIVE STREAM VIDEO



PATHING

Common applications of Amazon Rekognition

Automated image & video analysis at scale



WORKPLACE SECURITY & SAFETY

- Automate PPE detection
- Improve customer & employee safety
- Improve safety best practices



IDENTITY VERIFICATION

- Verify students before and during tests
- Confirm customer initiated financial transactions
- Identify workers before providing services



MEDIA ANALYSIS

- Tag images and photos for search and discovery
- Segment videos to set binge markers
- Flag inappropriate content



INDUSTRIAL AUTOMATION

- Identify parts & components
- Detect anomalies in real-time
- Scale supply chain inventory management

Supporting customers during COVID-19

Maintaining business continuity during this difficult time



IDENTITY VERIFICATION

**Verify test taker before
and during tests**

Confirm customer initiated
financial transactions

Identify workers before
providing services



Identity verification

“Using Amazon Rekognition for identity verification on our mobile application has reduced verification errors significantly and given us the ability to scale. We can now detect and verify an individual’s identity in real time without any human intervention, thereby allowing faster access to our products.”

Wale Akanbi
CTO and Co-Founder, Aella Credit

Face identification

Using Amazon Rekognition face detection API

Demographic data

Age range: 18–39
Gender: Female 96.5%

Facial landmarks

EyeLeft, EyeRight, Nose,
RightPupil, LeftPupil,
MouthRight, LeftEyeBrowUp
Bounding Box...

Image quality

Brightness 88.6%
Sharpness 83.1%



Emotions expressed

Happy 83.8%
Surprised 1.03%

General attributes

Smile: True 70.6%
Eyes Open: True 99.8%

Facial pose

Pitch 1.446
Roll 5.725
Yaw 4.383



Face comparison and search

Measure the likelihood that faces are of the same person



Similarity 93%



Similarity 0%



Demo

Test taker onboarding

Using Amazon Rekognition face detection API



Student image



Amazon Rekognition
face detection



**Face and image
attributes**

Test taker verification

Using Amazon Rekognition face compare API



Reference image



Video frame



Amazon Rekognition
face comparison

Similarity 96%



Quality filter

Similarity score

Online assessment audit report

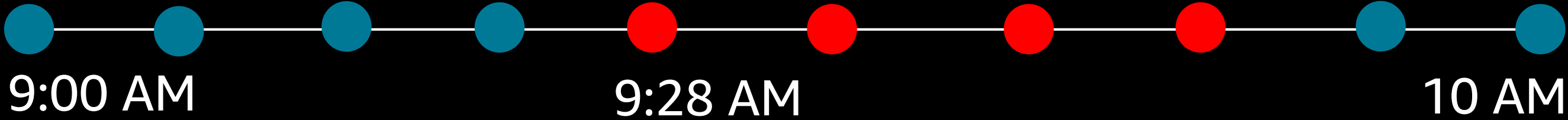
Test taker identified

Similarity 96%



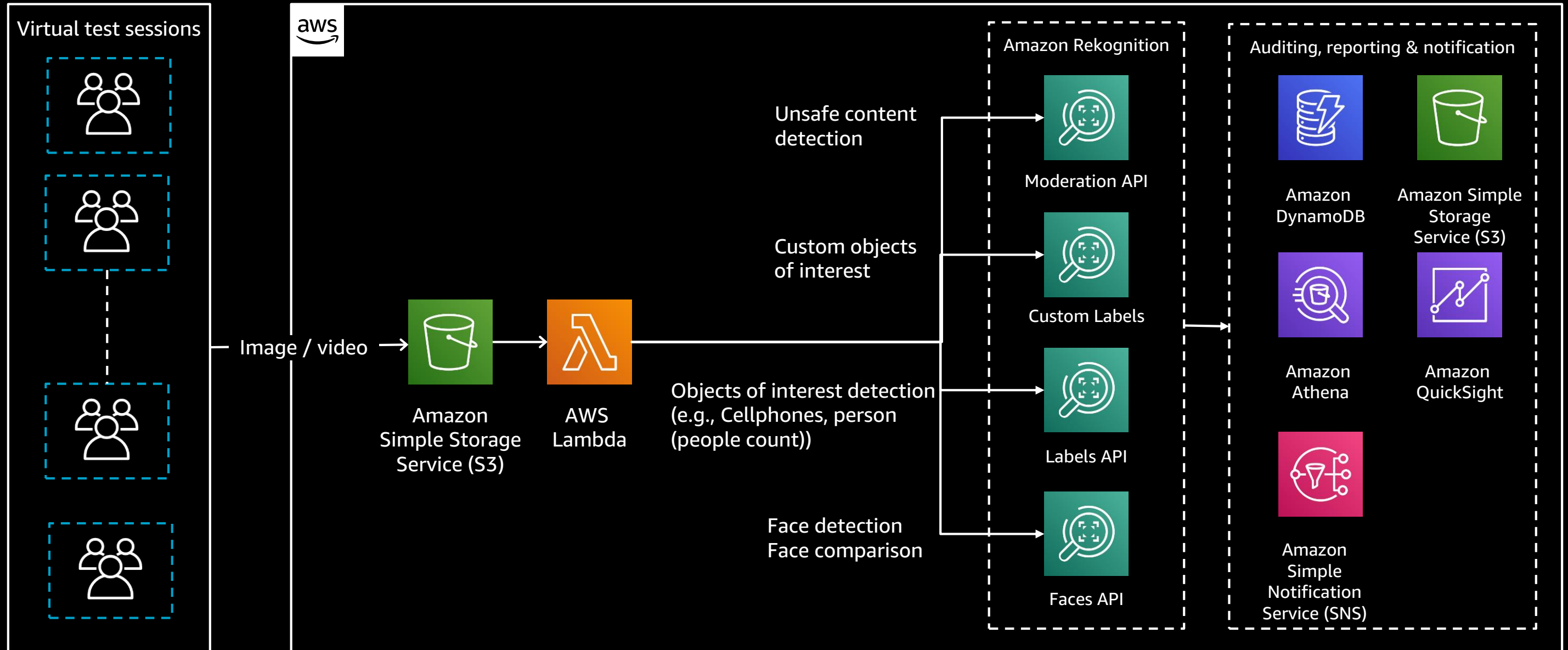
Test taker not identified

Similarity 0%



Sample implementation

Using Amazon Rekognition



Demo

Resources

Developer guide:

<https://docs.aws.amazon.com/rekognition/latest/dg/faces.html>

Code samples and demo solution:

<https://github.com/aws-samples/amazon-rekognition-virtual-proctor>

Visit the AI and Machine Learning Resource Hub for more resources

Dive deeper with these resources, get inspired and learn how you can use machine learning to accelerate business outcomes.

- The machine learning journey e-book
- Machine learning enterprise guide
- 7 leading machine learning use cases e-book
- A strategic playbook for data, analytics, and machine learning
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