PUBLIC SECTOR SUMMIT ONLINE

Using analytics to transform public transport

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Agenda

Who is Unleash live?

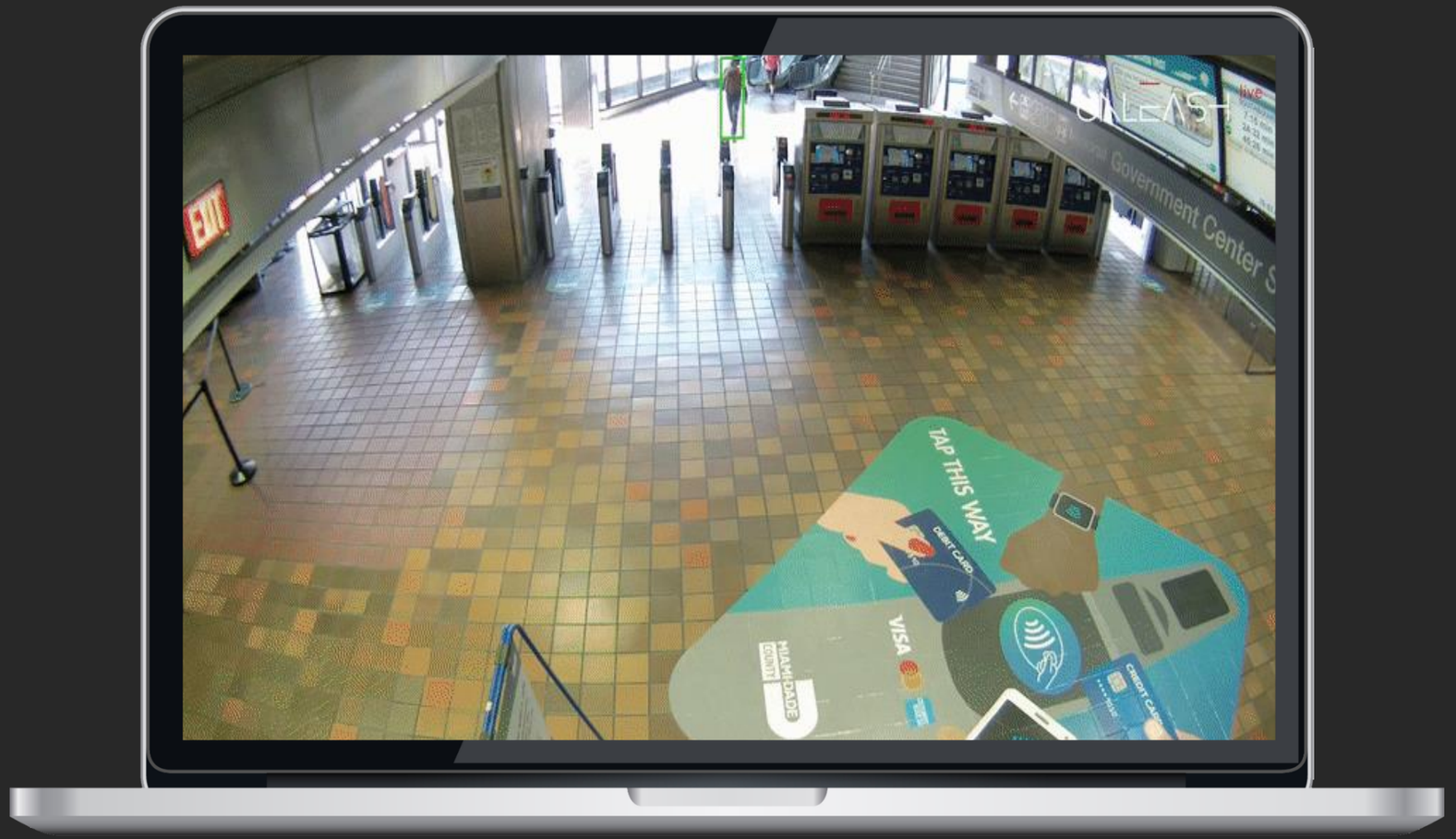
COVID-19 challenge facing Miami-Dade Metro

Video analytics with AWS

Solutions and use cases

UNLEASH live

Unleash live is an edge cloud based software platform ingesting live video and applying real time artificial intelligence (AI) analytics to improve instant decision making



Turning video and imagery into data

Supercharging existing customer hardware and integrating into their workflows seamlessly

Customer Devices

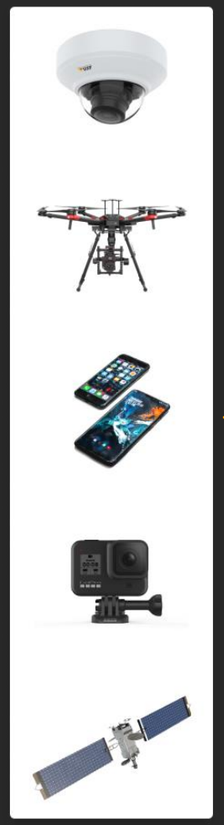
CCTV CAMERAS

DRONES

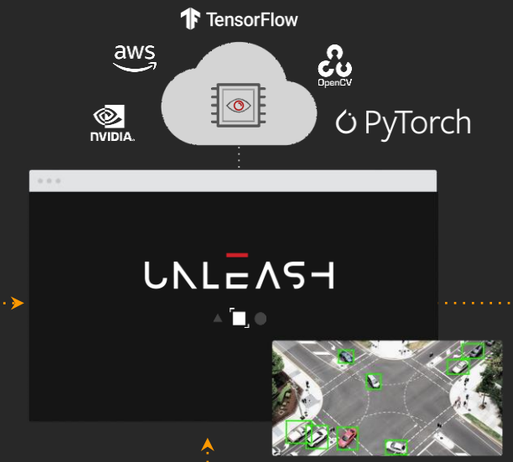
MOBILE PHONES

ACTION CAMS

SATELLITES



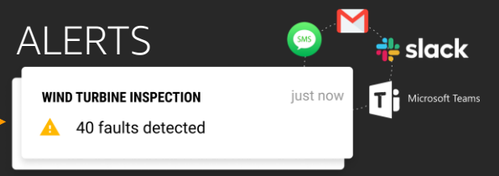
Visual Analytics



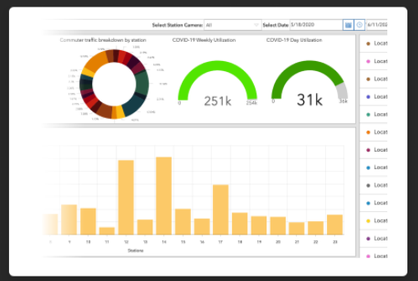
A.I. APPS STORE™

Customer Workflow

ALERTS



LIVE DASHBOARDS



INTEGRATIONS

UNLEASH live

Cities and transport

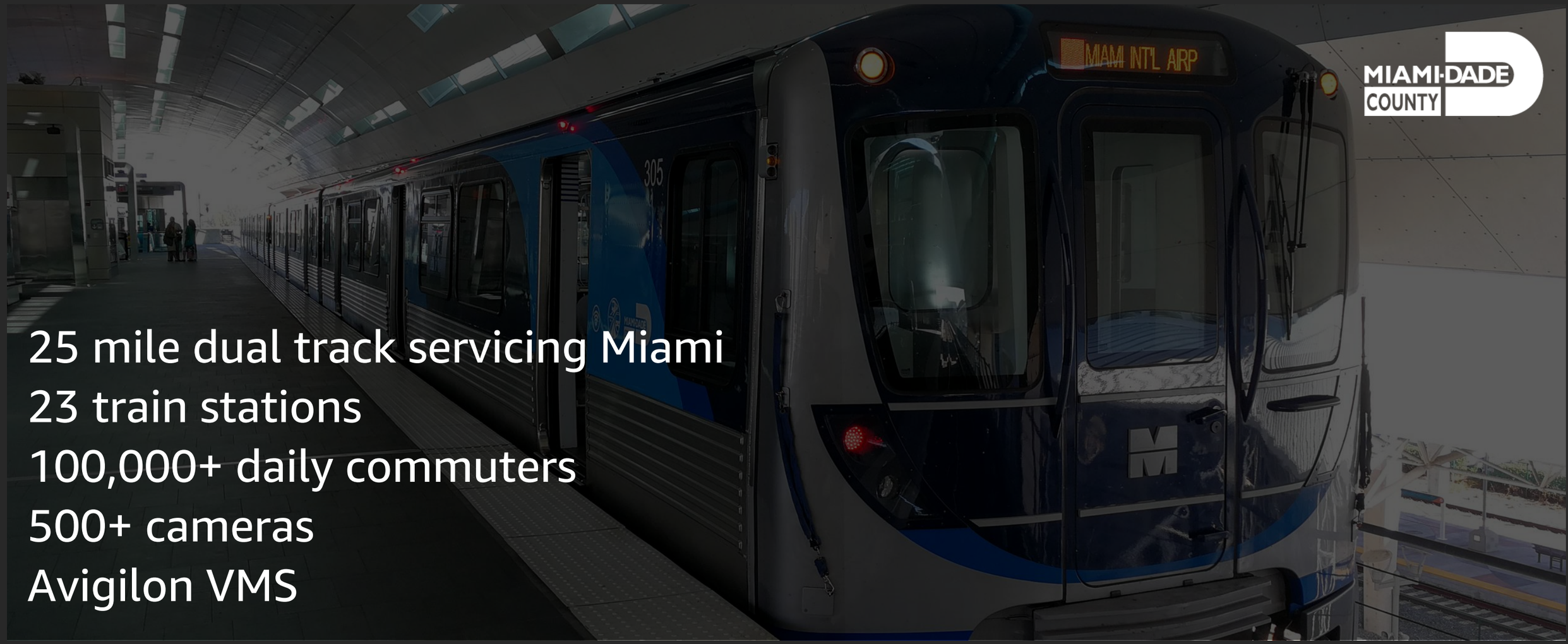
Unleash live integrates the output of existing camera networks, existing IoT devices, and other data sources into a browser-agnostic cloud platform. The captured data can be analyzed using dynamic AI models, visualized to provide immediate insights and exported for deeper analysis with third-party solutions. The platform enables:

Live video streaming
Automated and accurate visual data collection
Intelligent analysis and detection with AI
Automated reporting system to drive immediate insights
Notifications and alerts for faster response
Storage and archiving

- ✓ No additional capex
- ✓ Deploy within minutes
- ✓ Run tailored AI analytics
- ✓ Capture results in real time
- ✓ Connect to GIS and ERP

Saving 5-15% in city operations cost

Miami-Dade Metro



25 mile dual track servicing Miami
23 train stations
100,000+ daily commuters
500+ cameras
Avigilon VMS

Managing public transport during a pandemic

Responding to new challenges through scaled visual analytics

Reducing risk to passengers

To provide fluid, subsidized service at ticket gates, the county decided to open up ticketing gates to provide free MetroRail travel service in response to the pandemic.

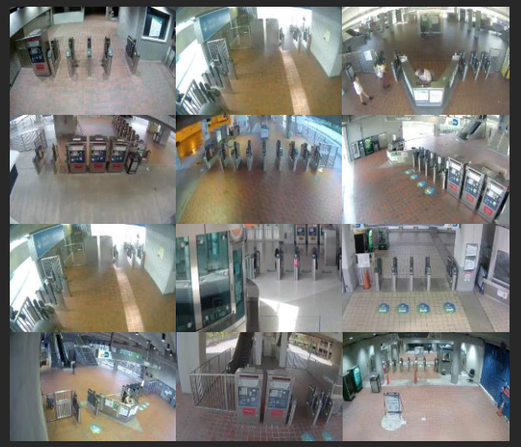
Unknown commuter volumes

Without ticket data, MetroRail provider loses the principal method of determining and tracking commuter volumes. The city is left with minimal visibility of train transit supply and demand.

Resourcing challenges

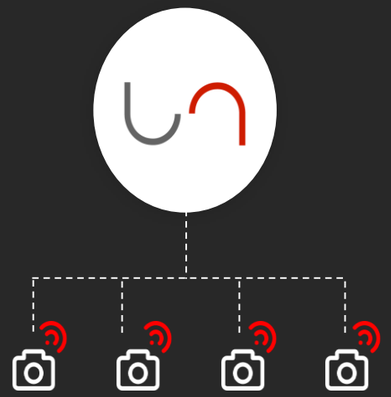
Manual counting during the pandemic is unsafe, unreliable, and unscalable across locations. Providing statistically relevant and accurate data at scale with limited manual resources is a real challenge.

Project process



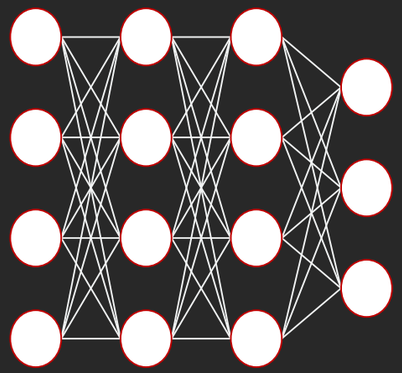
Scope Locations

Identify cameras with view of ticket gates



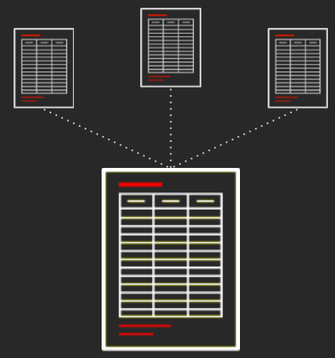
Connect Cameras

Live stream cameras from 23 train stations to Unleash live



Run Analysis

Train, refine, and run anonymized people counting and tracking algorithm



Generate Outputs

Consolidate time stamped entry and exit data from all cameras

Visualize Data

Automated data push to Miami-Dade transport servers

From raw video to analysis

Raw Footage

Streamed footage for training and refinement

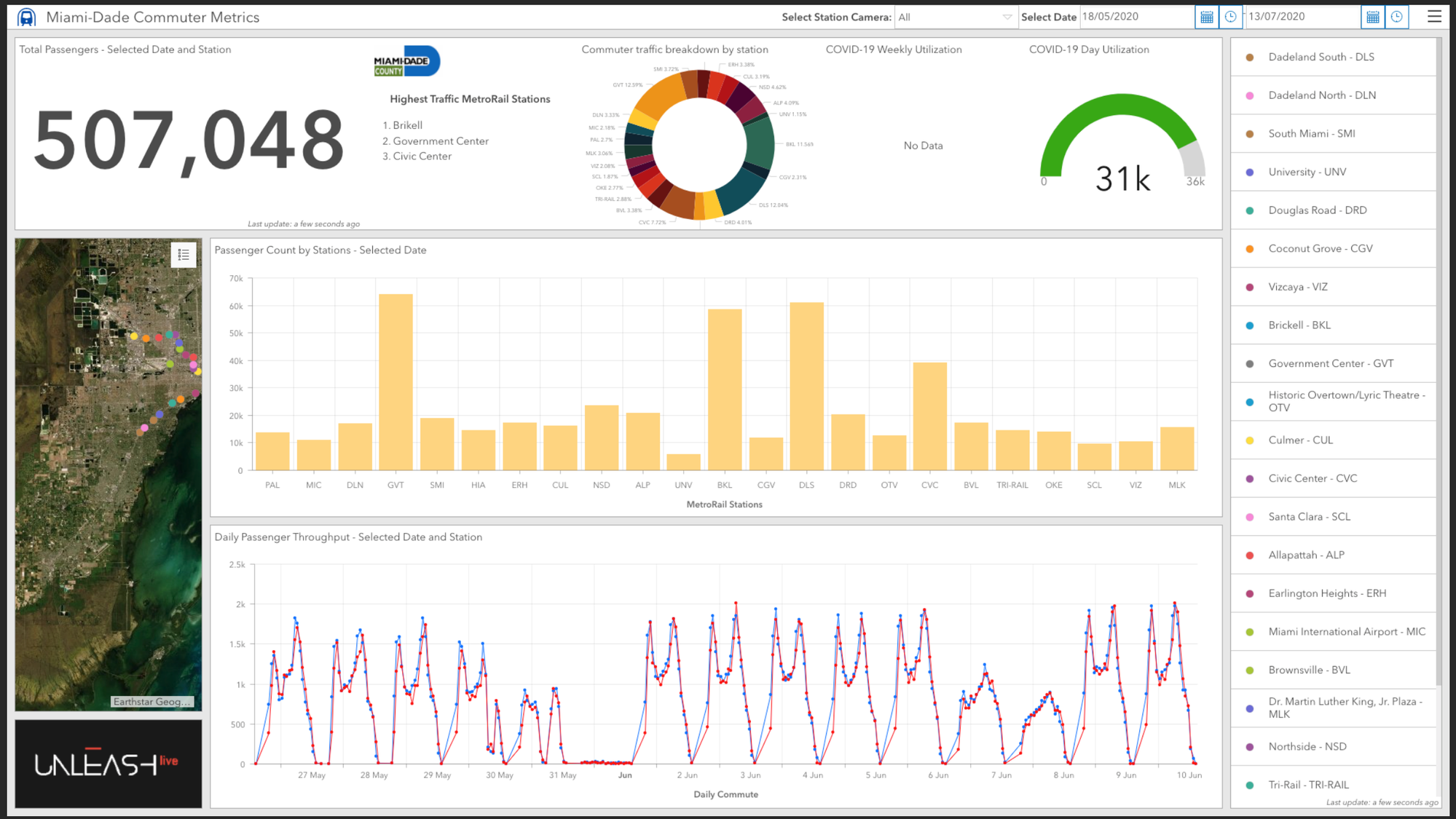
Detect People & Movement

Identify people within the scene and track their movement through gates

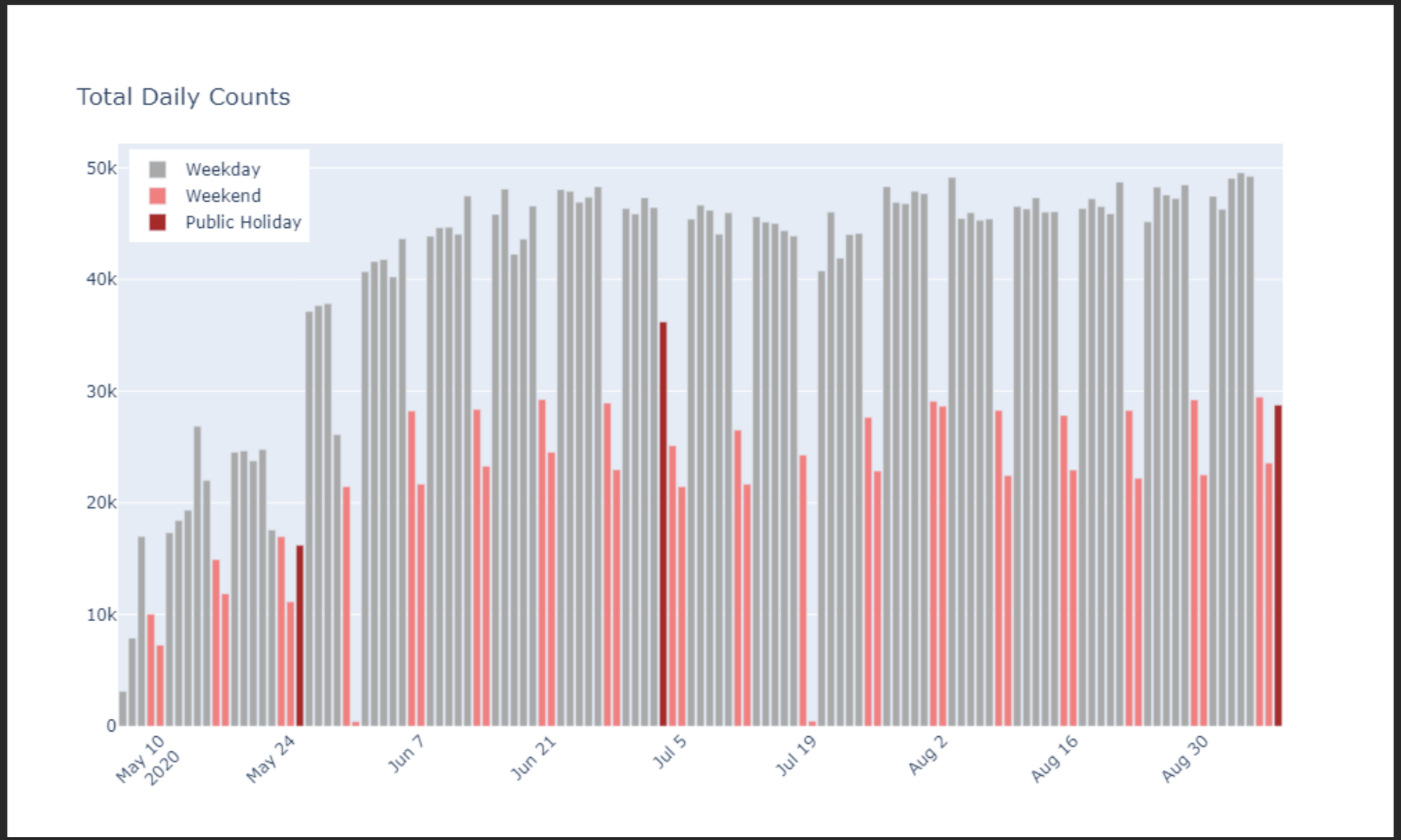
Gate Entry/Exit Definition

Set gate parameters to trigger entry and exit counts

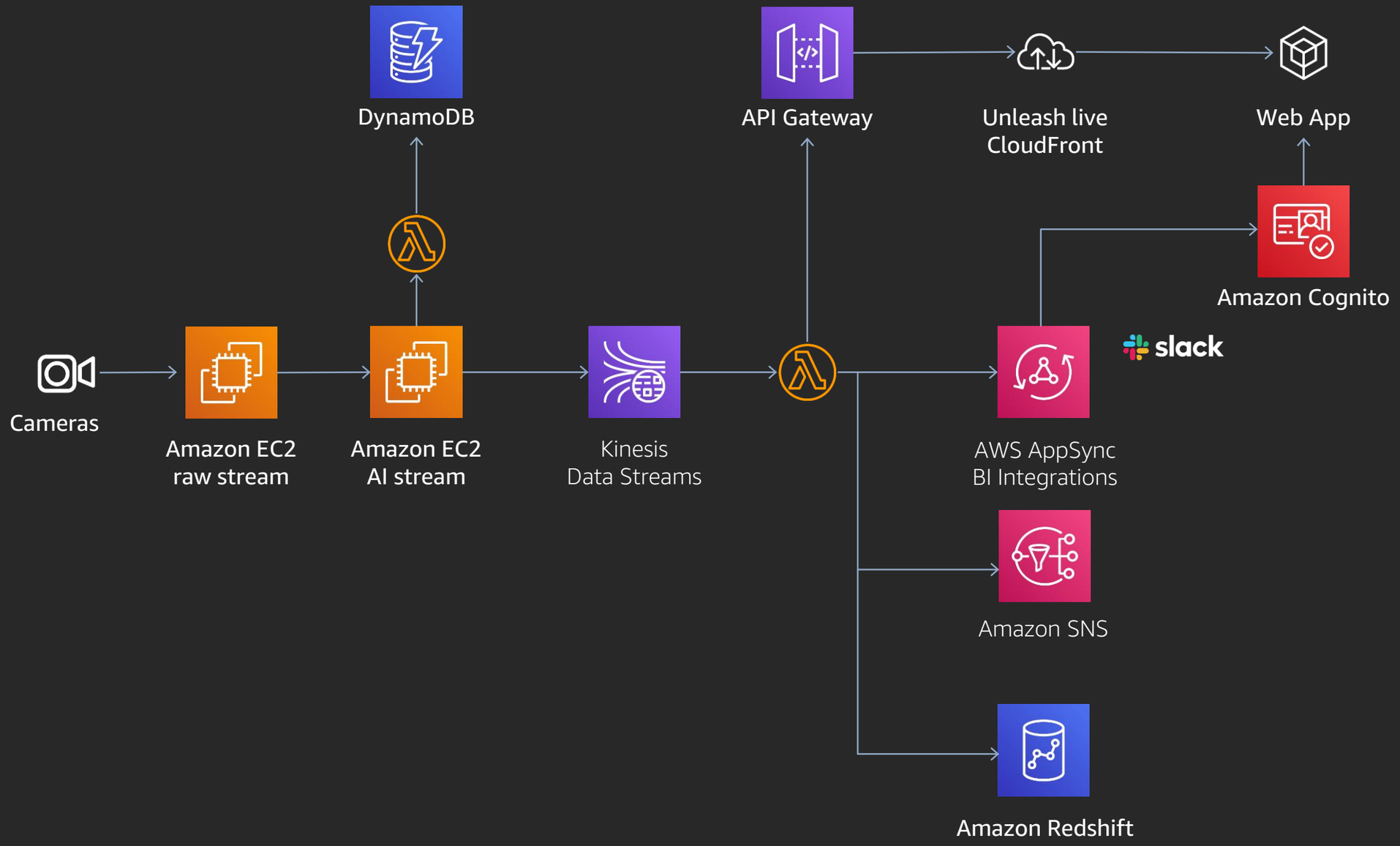
Translating visual data to graphical insight



Translating visual data to graphical insight



Running on AWS Architecture

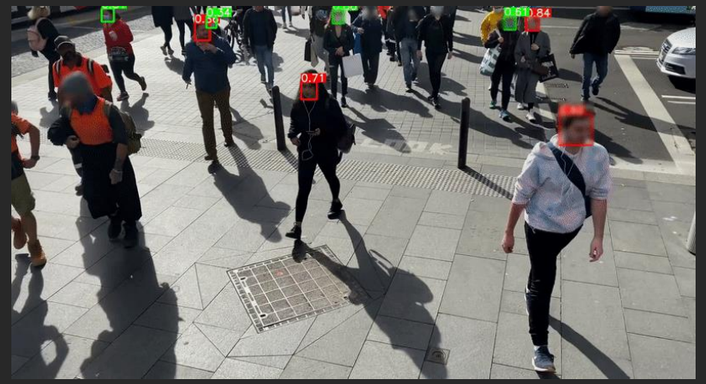


Expanding use cases through computer vision

Extending use cases by switching on additional AI algorithms with same cameras

Real Time Tram Data

Localized real time MetroMover commuter utilization



Face Mask Detection

Anonymized face mask identification and monitoring

Social Distance Monitoring

Monitoring and automated alerts for social distance adherence

Thank you!

James Kwong

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