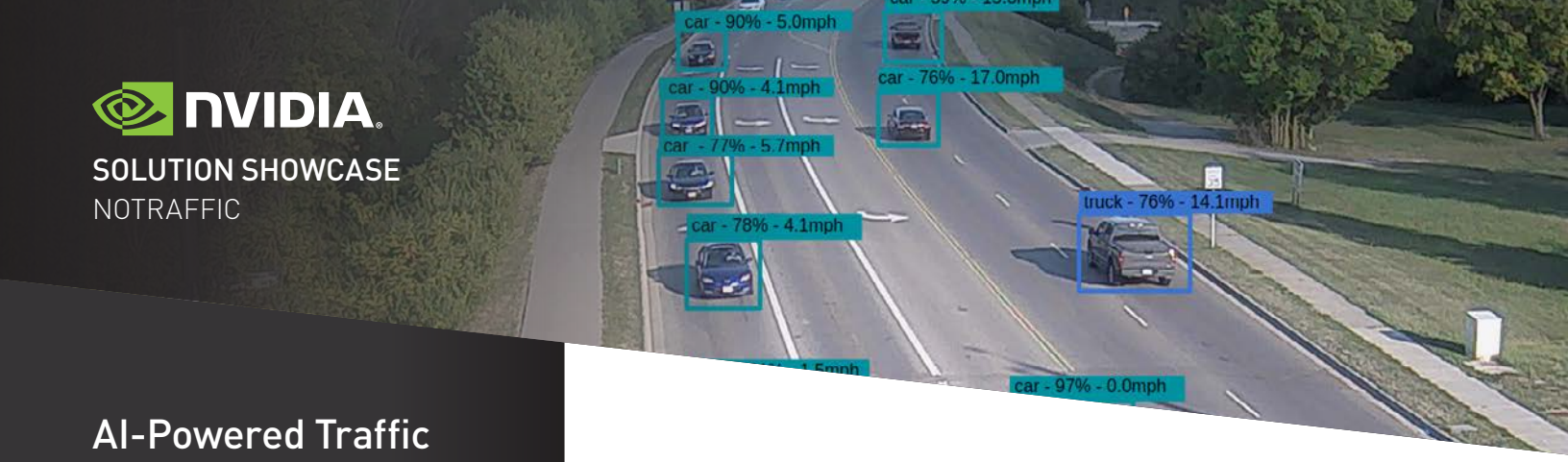
NVIDIA

SOLUTION SHOWCASE

NOTRAFFIC



AI-Powered Traffic Signal Platform

Challenge

- Develop a solution that's robust enough to run detection and tracking at the edge
- Provide the reliability to handle harsh weather conditions 24/7
- Minimize power consumption
- Provide a solution with a small form factor
- Move from development to production quickly

NVIDIA Solution

- High computational power to meet specific neural network requirements
- Same OS to seamlessly share code between connected devices and the cloud
- Easy configurability using TensorFlow and other machine vision technologies
- Reduced development cycle
- Standardization for partners who are already used to working with NVIDIA® Jetson™

Results

- The ability to identify objects and classify them with 99% accuracy
- Real-time processing of data and sending it to the cloud
- Accelerated neural network performance across many devices

NOTRAFFIC IS HELPING TO ELIMINATE TRANSPORTATION HEADACHES USING THE POWER OF AI

> *"The combination of NVIDIA's market-leading processors with NoTraffic's cutting-edge technology empowers our customers to quickly adjust to changing requirements and circumstances. This helps cities to manage their entire grid with a more efficient and dynamic approach, solving todays challenges while preparing for the future of connected and autonomous vehicles."*
>
> - **Tal Kreisler,** CEO and Co-Founder, NoTraffic

Autonomous Traffic Management Platform

Traffic agencies define transit related policies, AI software then intelligently implements these policies at each traffic signal in real-time to autonomously manage an entire city grid based on actual demand.

By digitizing the infrastructure, cities can provide their citizens with advanced mobility services that aren't possible with the current, confined infrastructure. It's a powerful solution for customizing services for every type of user to cut congestion, reduce emissions, and prevent accidents.

NVIDIA Platform

The NoTraffic solution combines hardware and software to optimize traffic flow. The hardware uses machine learning and object detection to identify the different road users approaching the intersection. The software then harnesses AI algorithms to track the various objects—as well as their speed and direction—analyze the incoming data, and manage the traffic signals accordingly.

The company's close partnership with NVIDIA made it easy to efficiently develop an edge-based AI solution that enables fast processing and accurate object identification, offering a first-of-its-kind platform that responds in real-time to all road users.

Products Used

> NVIDIA Jetson TX2

Processing Engines Used

> GPU
> CPU
> Video encoder/decoder

Software Used

> NVIDIA JetPack™
> TensorFlow
> NVIDIA CUDA®
> cuDNN

NoTraffic Results

NoTraffic is currently running projects in California, Arizona, and Ohio, with more in the works.

Across its customers, the NoTraffic platform has proven to cut delay time between 35% and 48%.

Much of this reduction in delay was made possible by the platform's AI software, which intelligently switches signal phases in real-time based on the actual demand.

About NoTraffic

NoTraffic was established in 2017 with the goal of revolutionizing the way traffic is being managed.

The company was founded by Uriel Katz, Tal Kreisler, and Or Sela. They realized that traffic can be managed much more effectively using advanced technologies based on the idea that, while road traffic is dynamic and constantly changing, the traffic light grid is pre-programmed and fixed.

The company employs industry experts, mainly in the fields of AI, computer vision, and traffic engineering.

Board members consist of industry leaders such as Prof. Nathan Gartner—who invented the first algorithm for real-time optimization of signalized intersections—and Victor Mendez, former deputy secretary of the DOT.

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LEARN MORE

Contact us: jetson@nvidia.com
Learn more: www.nvidia.com/robotics
Learn more about NoTraffic at: www.notraffic.tech

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