Daybreak
Lightning Talk

IARPA
BE THE FUTURE

WRIVA

6 April 2022

Unclassified

Contents

Company Overview

Capabilities

- Geospatial
- AI/ML
- Data Analytics
- Agile, SAFe, DevOps
- Intelligence Analysis
- Mission Support

Values

- Mission-Focus
- Innovation
- Integrity
- Respect and Dignity for All

Examples of Customers

- National Geospatial-Intelligence Agency (NGA)
- US Army Special Operations Command (USASOC)
- US Central Command (USCENTCOM)
- VPA (at previous companies)

Company Overview
Our Team

Jason Dalton, Co-Founder and CTO

- Founder and CEO, Azimuth1
- Senior Director, GeoEye, VP of Engineering, SPADAC
- Adjunct Faculty, UVA, U. Maryland, U. Missouri – St. Louis
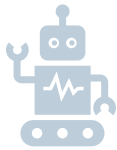
Manik Rath, CEO

- Co-founder of Alion Science and Technology, a modeling and simulation company serving DoD
- SVP of LMI, a contractor supporting the Sponsor
- CEO of C2 Technologies; modeling and simulation company serving USAF, US Army, Disney, Marriott

Joanne Isham, Board of Advisors

- Deputy Director of National Geospatial-Intelligence Agency (NGA)
- Deputy Director of Science and Technology for the CIA
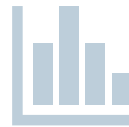- National Intelligence Distinguished Service Medal, and the National Intelligence Medal of Achievement

Company Overview
Capabilities

AI and Advanced Information Technology

AI/ML Deep Learning

AI-powered Geospatial Mapping and Object Identification

Computer Vision with ML

No Code and Low Code Application Development

Data Analytics

Geospatial Analytics

Fraud Analysis

Predictive Analytics

Risk Analytics

Geospatial Analysis

Battlespace Awareness

Routing and navigation

Special Operations Forces Support

Environmental Analysis

Intelligence Analysis

Open Source Intelligence (OSINT)

Anti-Money Laundering Intel (AML)

Linguistics and Translation

Mission Support

Acquisition and Procurement Support

Cybersecurity Requirements Analysis

Administrative Support

Capabilities
Image Analysis and Computer Vision

- Delivering understanding of objects in photo, video, and satellite imagery

- Utilizing AI to accelerate the identification of objects, including assessing dimensions

- Detecting Objects from Ground, Aerial, UAS, and Satellite Sensors

- 3D modeling and reconstruction from UAS video

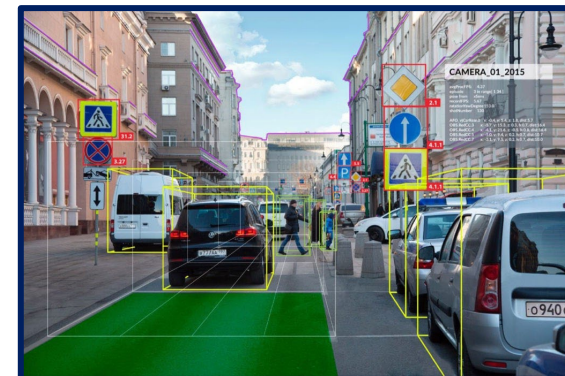**Battlespace Imagery - Drone**

Satellite Imagery

CCTV and Traffic Camera Imagery

Artificial Intelligence

- Our proprietary tools automate the detection, measurement, and identification of objects in imagery and video.

- Understanding, integrating, and rendering images taken from varying altitude will require calibration of objects This can be automated and accelerated with AI.

- Daybreak's unique geospatial AI augments computer vision by providing context clues from the surrounding area to give greater confidence to the AI model, particularly in poor visibility, image noise, and small objects relative to image size.
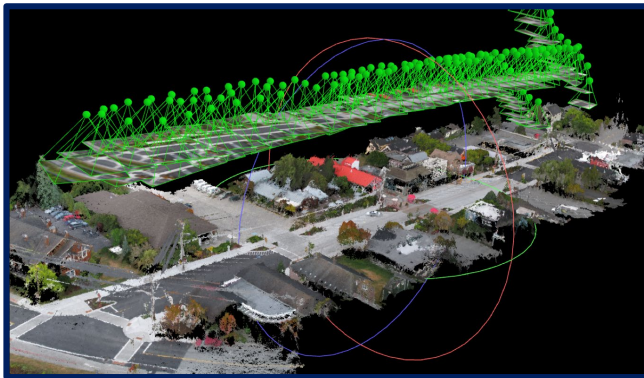
Histograms of Oriented Gradients, used with Scale Invariant Feature Transformation (HOG/SIFT)
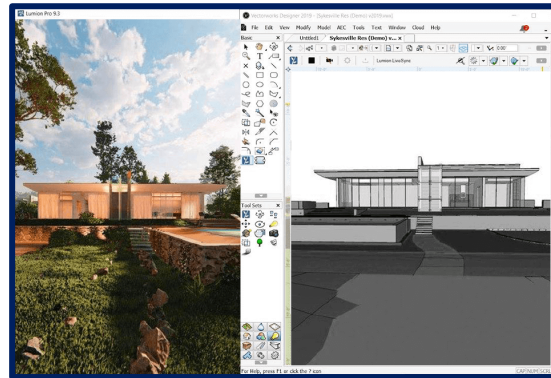
Modeling and Simulation to Support Rendering and Visualization

- Daybreak's 3D physical modeling provides context and precision to inform 3D rendering and visualization, calling attention to important structure and objects in the scene.

- Expertise in tool chains from raw data collection through processing, AI, geospatial registration, and visualization

- Augments the rendering pipeline by providing context recommendations on objects, materials, and age.

Facility remediation: Geospatial reconstruction from UAS video and still images

Rendering a photo-realistic building from a CAD drawing using context clues

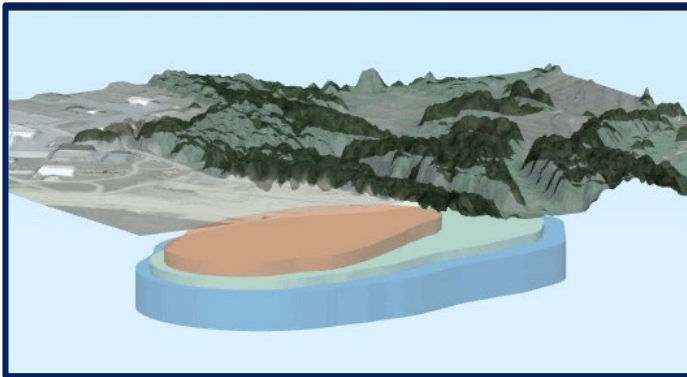Disaster response: Model reveals hidden target under canopy

Capabilities
& Proprietary Tools

Our full-stack developers invent novel tools powered by AI and ML to analyze, image, model, and understand imagery for a variety of unique problem-sets. Our proprietary tools enjoy adoption by national security customers as well as a wide array of commercial customers.
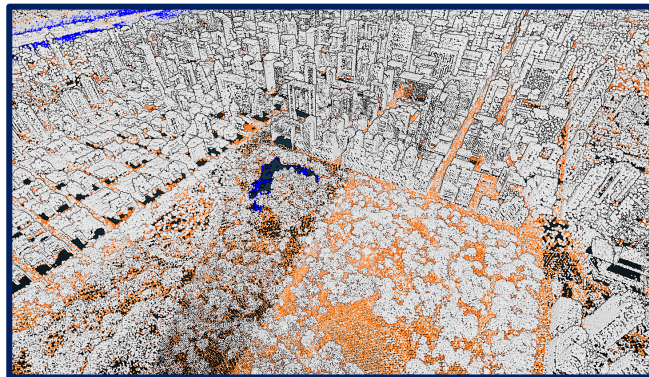
EnviMetric

Machine learning model points investigators to sources and boundaries of underground contamination
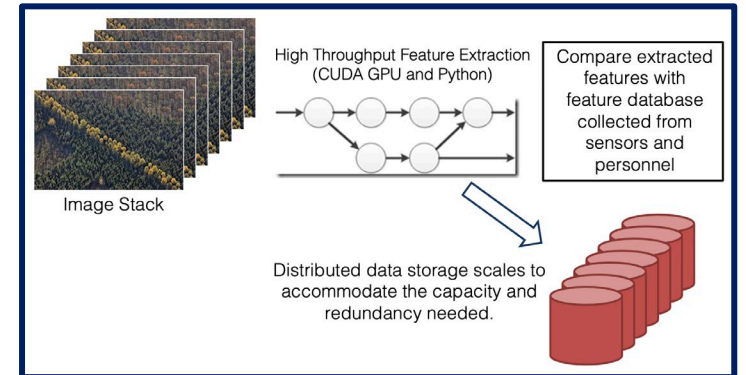

DigitalVista

UAS video stream processing for Public Safety operations

Automated Transportation Lines Monitoring

Railway monitoring compared real time video taken along track lines with database of known infrastructure.

Teaming Self-Assessment

Daybreak Strengths	Daybreak Capabilities/ Teammates Welcome	Seeking Teammates
Image Analysis	Photo-Realistic Rendering	Systems Engineering
AI-driven measurement and computation		Systems Integration
3D Modeling & Simulation		

Contact Us

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