CENGN

VISUAL DEFENCE INNOVATION HIGHLIGHT

Visual DEFENCE

COMPANY OVERVIEW

Visual Defence specializes in integrated security solutions. Working with major clients such as the US Department of Homeland Security and Air Canada, the organization delivers custom security solutions that integrate different technologies, vendors, systems, and applications. Visual Defence provides numerous solutions such as network-based video surveillance, access control, audio communications, command & control centres, geographical information systems, and more.

LOCATION: RICHMOND HILL, ON

TECHNOLOGY

Data Centre and Cloud

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USING IMAGE-BASED INFERENCE MODELS FOR SECURITY

Within the security world, using image-based inference models to detect potential threats is in major demand today. Working long hours and under stressful situations security personnel can sometimes miss threats coming in. Using AI and machine learning algorithms, these models can identify objects in images, videos, and even live-feeds giving security workers the ability to identify threats such as contraband or weapons. These models, however, are difficult and expensive to create, requiring numerous hours and experts in the deep machine learning field to build. Seeing this as an opportunity, Visual Defence created Inferware.

INFERWARE – VISION-BASED DETECTION

Powered by Google's Tensorflow, Inferware is a vision-based machine learning algorithm that can detect objects such as vehicles, small items, animals, text, and much more. The detection can be done through more than just images, including video and even live camera footage. Since, Inferware can detect through live-feed and video, the software identifies quickly and accurately even with small objects. Inferware is also easy to use as the platform doesn't require any programming knowledge.

MOVING FROM A SINGLE-USER TO MULTI

Currently, Inferware is only available as a single-user desktop application. In order to pursue the larger multi-user market, Visual Defence came to CENGN to validate Inferware's deployment as an on-premise private cloud solution that supports up to 30 concurrent users. Visual Defence also wanted to test the software, seeing if 5 users could work together in the same shared GPU. By the end of the testing, Inferware handled 30 concurrent users completing a mix of annotation, augmentation and training tasks. Inferware also determined that 5 users could work in the same space.

> **"CENGN helped us understand the hardware requirements needed to run the VDI application with multiple users performing different tasks."**
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> **Omri Artman, Project Manager,**
> **Visual Defence**