

SCRIMMAGE

Object detection through synthetic data generation

SCRIMMAGE integrates synthetic target imagery generation and machine learning on high-specification hardware to enable the rapid deployment of bespoke, automatic object detection and classification systems.

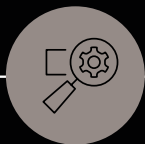
WHAT IS SCRIMMAGE?

SCRIMMAGE addresses the typical data availability issue in which the labelled data required to train an object detection system is either too sensitive to share, prohibitively expensive to collect and label, or small in quantity.

SCRIMMAGE's data synthesis capability allows the creation of large, annotated target imagery datasets bespoke to each use case: land, sea, or air.

State-of-the-art object detection models are trained on synthetic imagery whilst leveraging accelerated GPU hardware for rapid training and deployment.

BENEFITS



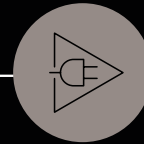
ROBUST SCENARIO MODELLING

Bespoke synthetic training data tailored to individual use cases



INCREASED CAPABILITY

Rapidly deployable object detection models



HIGH SPEED

AWS integration to enable rapid Cloud GPU data synthesis and model training



HARNESSING OBJECT DETECTION

Configuration

The custom data synthesis engine is highly configurable, with camera locations, angles, field of view, ocean surfaces, cloud cover, and specific weather conditions on land or sea easily tailored for specific use cases.

Targets can be “dropped in” using any 3D model and arranged in particular formations with configurable placement algorithms, allowing for datasets containing a range of target classes (e.g. multiple enemy asset types, enemy vs. friendly, enemy vs. neutral).



Creation

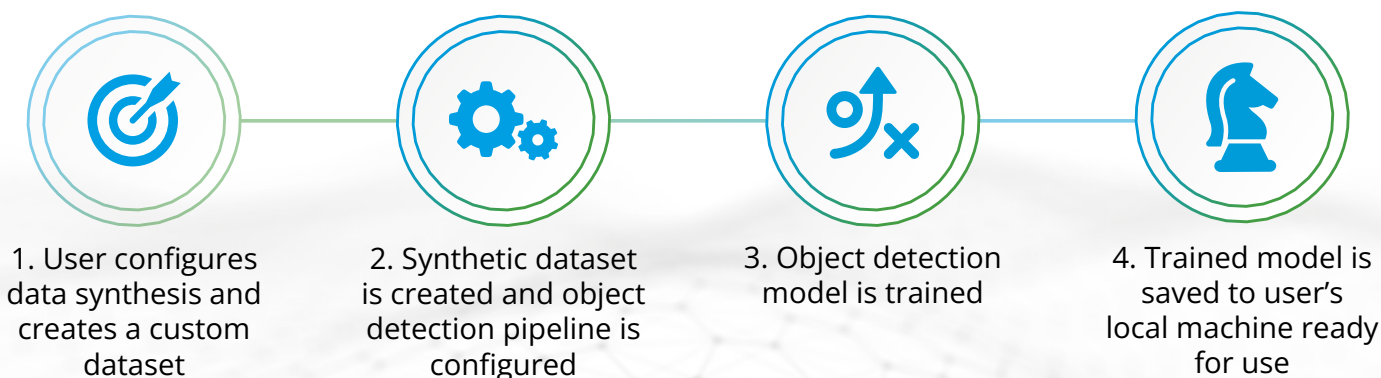
SCRIMMAGE applies state-of-the-art domain randomisation techniques to its training data, helping to bridge the gap between synthetic data and real imagery, leading to highly accurate models.

Training

SCRIMMAGE's built-in machine learning pipelines and cloud compute capability enable rapid training of tailor-made object detection models with custom synthetic data. Utilising cloud resources, users can benefit from rapidly training models on high-end hardware without using valuable local resources.

Mobilisation

Object detection models can be rapidly deployed to make real-time predictions on data in a live environment/ theatre.



5. Output

Object detection model is deployed, providing platform operators with real-time assistance and decision making in theatre.



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