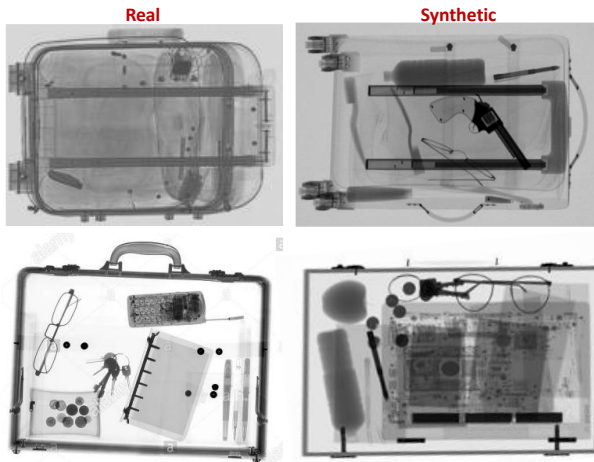


Powerful Synthetic Data + Common Application Framework for State-of-the-Art Security Screening via QSim

A complete security screening solution that enables virtual testing and evaluation, evaluation of performance with dangerous or controlled substances, system of systems analysis, certification readiness demonstration, detection and false alarm performance analysis against representative data.

QSim is a complete toolset for cutting edge synthetic X-ray data generation and understanding:



- Accurate simulation for X-ray transmission/absorption (radiography, CT) and scatter (Compton, XRD) physics
- Inherently multi-energy
- In-depth validation against laboratory and commercial systems
- Extensive shape and material libraries for virtual object creation
- Realistic component response (detectors, sources, optics)
- Closed loop between data generation and model outcomes
- Enables rapid iterations and collaborative workflow
- A tool for comparing, labeling, cleansing your data
- Powerful modeling, measuring, and data depiction tools
- Graphical and API-based control

Physics Based Synthetic Data improves AI outcomes

- | | |
|---|---|
| <ul style="list-style-type: none"> • Supplements data where data is missing, not available, or biased or non-existent (cold starts) • Data is perfectly labeled and volumes perfectly segmented • User-defined threat or anomaly sizes, shapes, and compositions • Accommodates data privacy and confidentiality requirements | <ul style="list-style-type: none"> • Quickly and cheaply compare algorithm performance against existing standards for algorithm certification • Build and test new algorithms against targeted or stream of commerce test sets • Facilitates human training and testing • Establish model and/or fundamental performance limits |
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X-ray System Design and analysis

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|--|---|
| <ul style="list-style-type: none"> • Explore evolutionary or revolutionary new system designs • Informing component selection and quality control • Safe and easy access to virtual threat objects | <ul style="list-style-type: none"> • Conducting trade studies and cost function optimization • Proof of concept capability demonstration • Pre-certification testing |
|--|---|

Rendered.ai NVIDIA CUDA enabled Common Application Workbench

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|---|---|
| <ul style="list-style-type: none"> • Cloud-native compute management • Execution framework • Chain-able modifiers Agent factories | <ul style="list-style-type: none"> • Standard interfaces • Extensive built-in libraries |
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Virtual Air Cargo Radiographs

