
AWS
re:Invent
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ROB401

Parallelizing robotic simulation and training in the cloud

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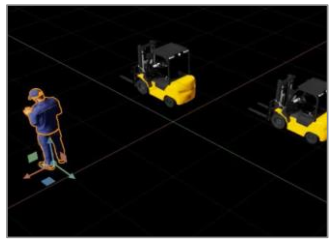
High-fidelity simulation takes time . . .

PARALLELIZE!

Generating training data with domain randomization

SCENE CREATION

Build-realistic scenes in Omniverse to begin data generation



DOMAIN RANDOMIZATION

Randomize lighting, materials, colors, positions, and more to help the AI train on relevant information



GROUND TRUTH ANNOTATION

Perfectly labeled image for model training

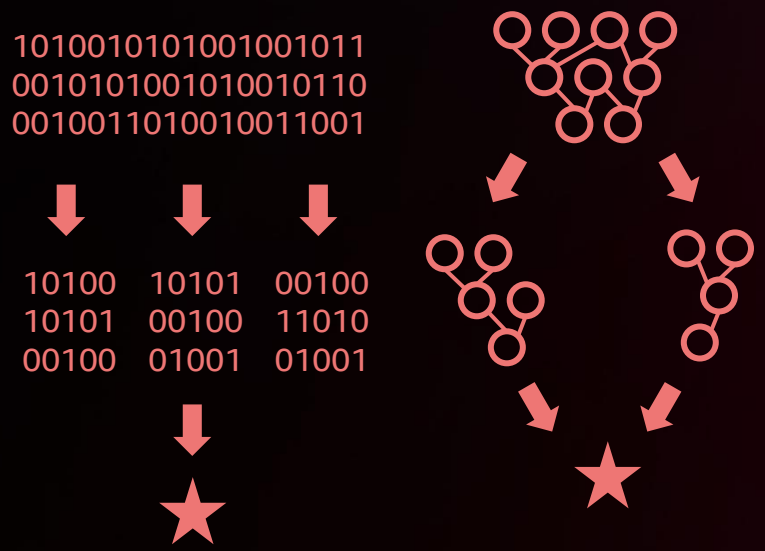


DATA GENERATION AND OUTPUT

Output data in the right format to seamlessly work with TAO toolkit and streamline the training workflow



Training: data parallel and model parallel



Testing and model evaluation



Accelerate to results with an AWS RoboMaker batch



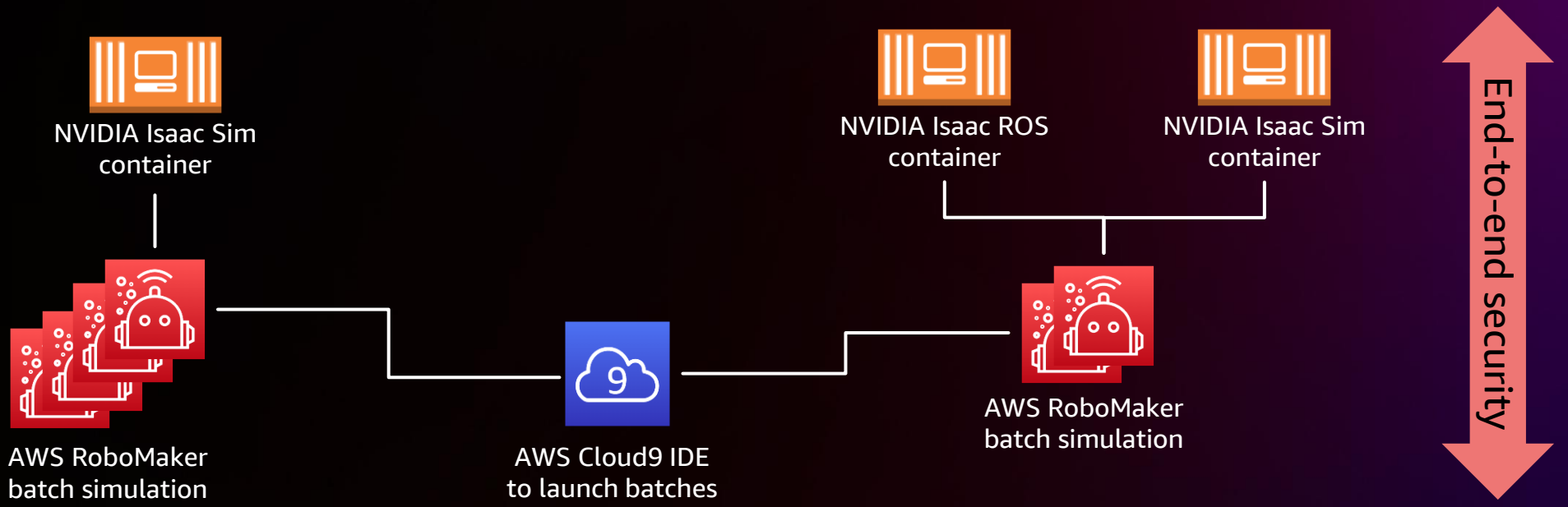
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What you'll accomplish and learn today

1. Generate training data in parallel with NVIDIA Isaac Replicator on a batch of 4 AWS RoboMaker simulations

2. Test and evaluate pre-trained models with NVIDIA Isaac ROS and NVIDIA Isaac Sim on a batch of 2 AWS RoboMaker simulations



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Let’s get started!

Instructions: https://tinyurl.com/5n8dsymx

Access code: **b547-02a25c-f3**

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Thank you!

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