

Bridging the Reality Gap

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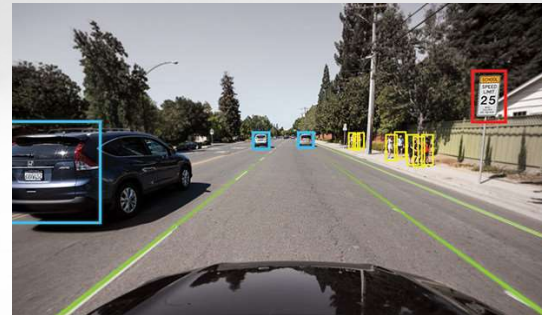
Domain Gap Problem

- Training on Dataset A does not ensure performance on Dataset B



KITTI

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Internal

- Detection trained and tested on Internal: 89.5% mAP
- Trained on Internal, tested on KITTI: 74.0% mAP
KITTI 'hard' mode, Internal network

Holds true for Real vs Synthetic



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KITTI

Synthetic

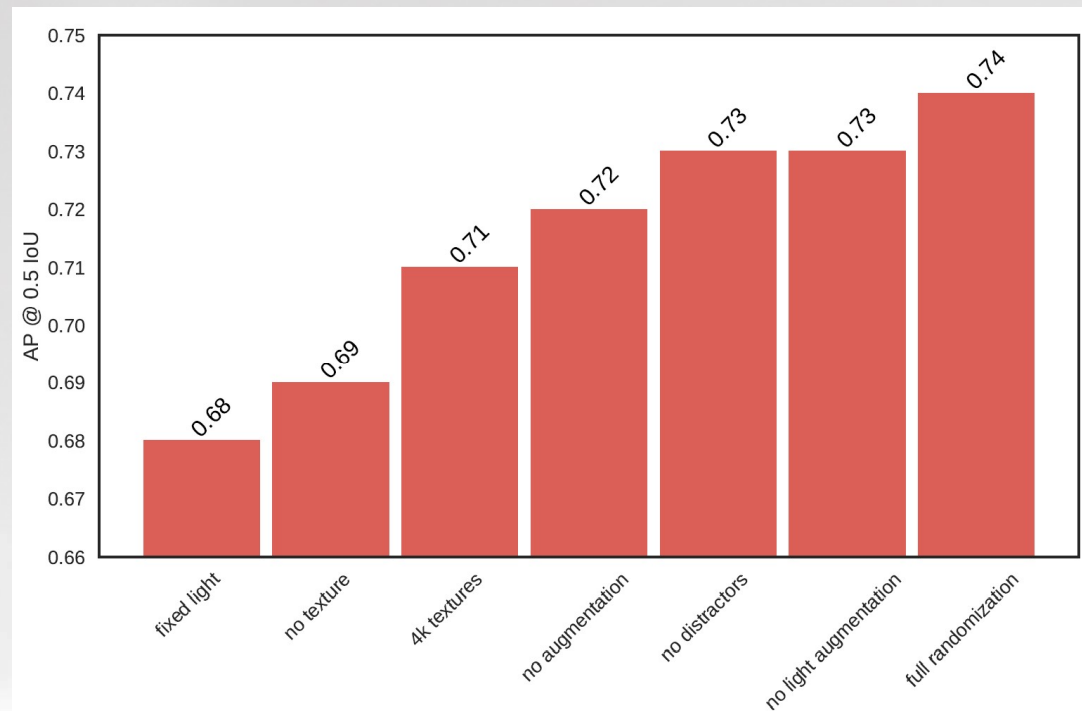
- Detection trained and tested on KITTI: 92% mAP
 - Trained on KITTI, tested on Synthetic: 73% mAP
- KITTI 'hard' mode, Faster-RCNN network

Domain Randomization

- Explore the gap using random cars, textures, camera, distractors, etc



Ablation Study



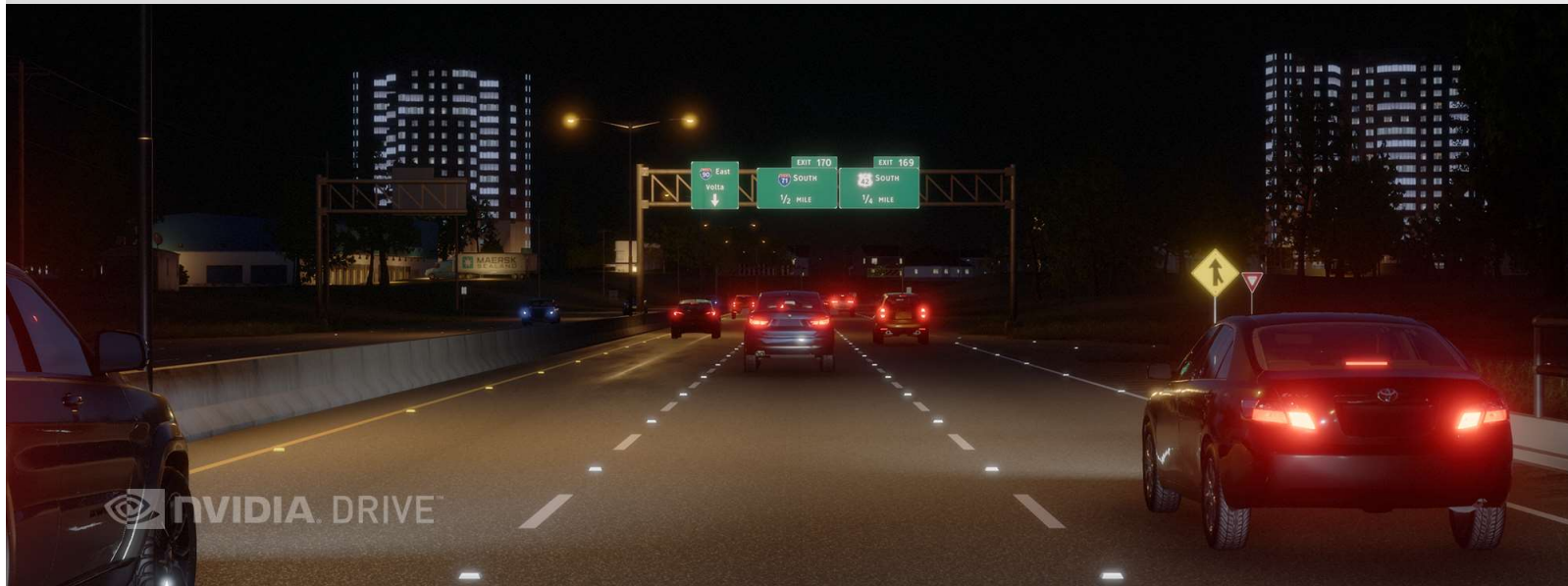
Domain Randomized KITTI vs KITTI 'easy' mode

Domain Specific Randomization

- Context is very important
 - Especially for smaller objects
 - Randomize, but within more realistic scenes



NVIDIA DRIVE™ Sim



DL for Pedestrian Animation

