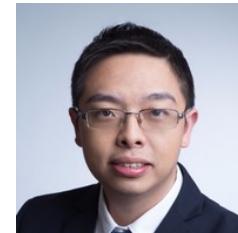


Open Compound Domain Adaptation

Ziwei Liu* Zhongqi Miao* Xingang Pan Xiaohang Zhan Dahua Lin Stella X. Yu Boqing Gong



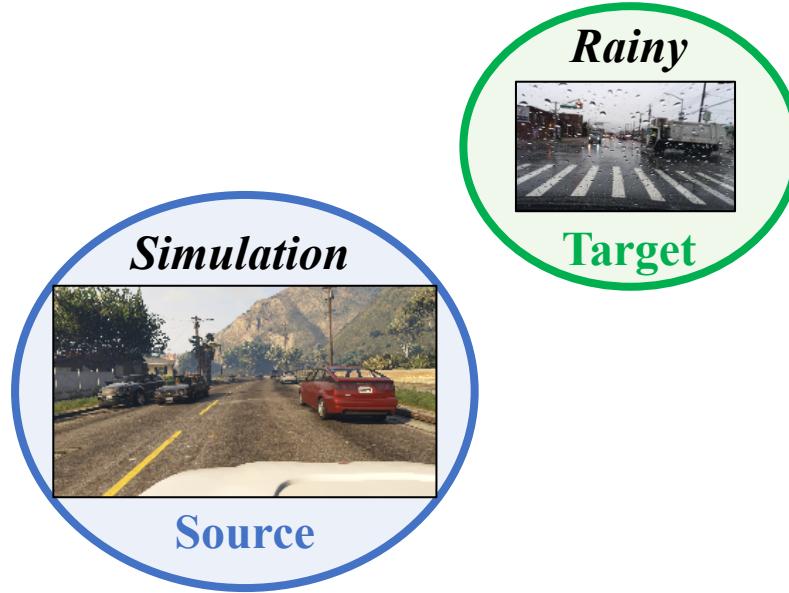
The Chinese University of Hong Kong



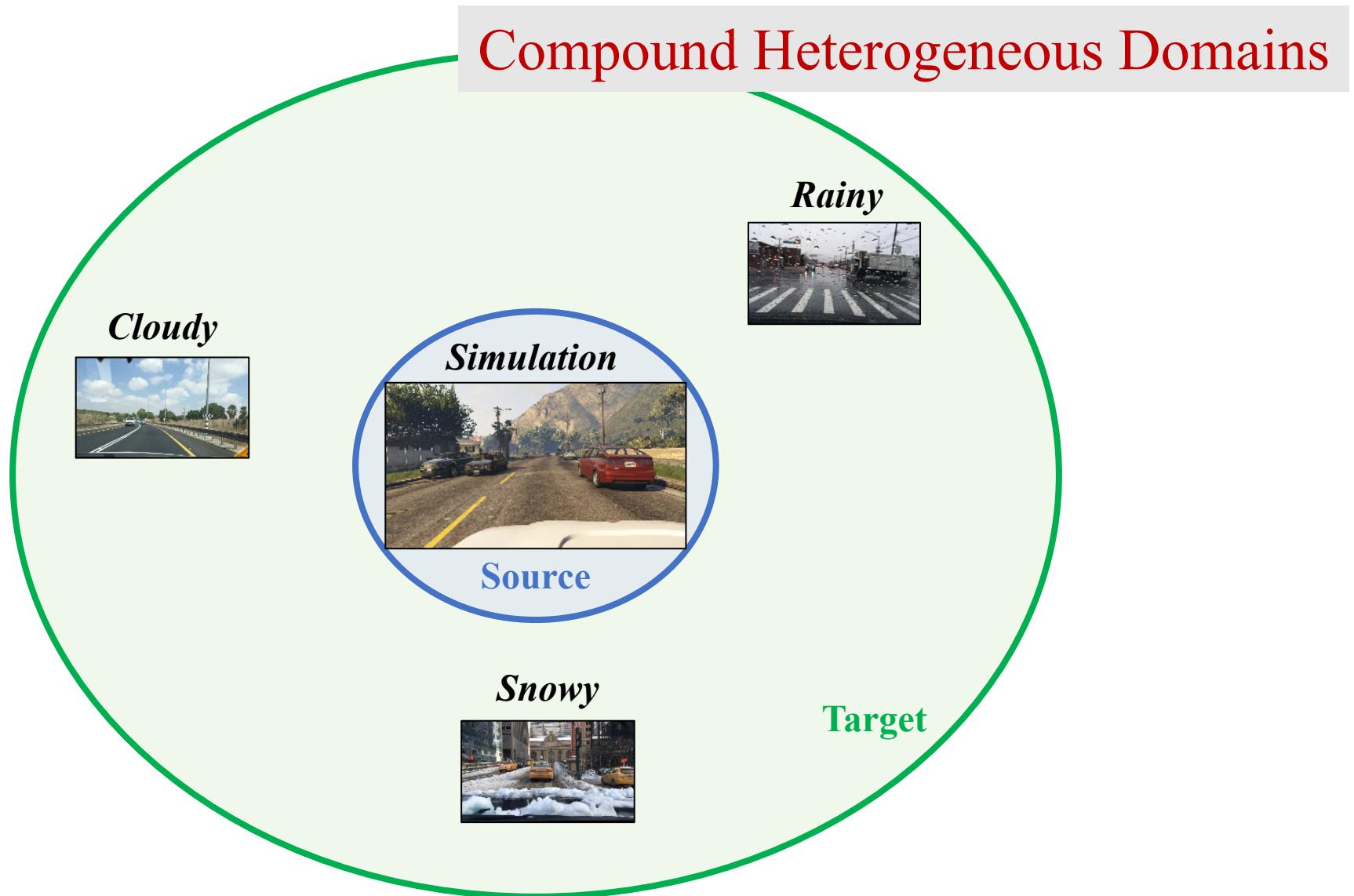
UC Berkeley / ICSI



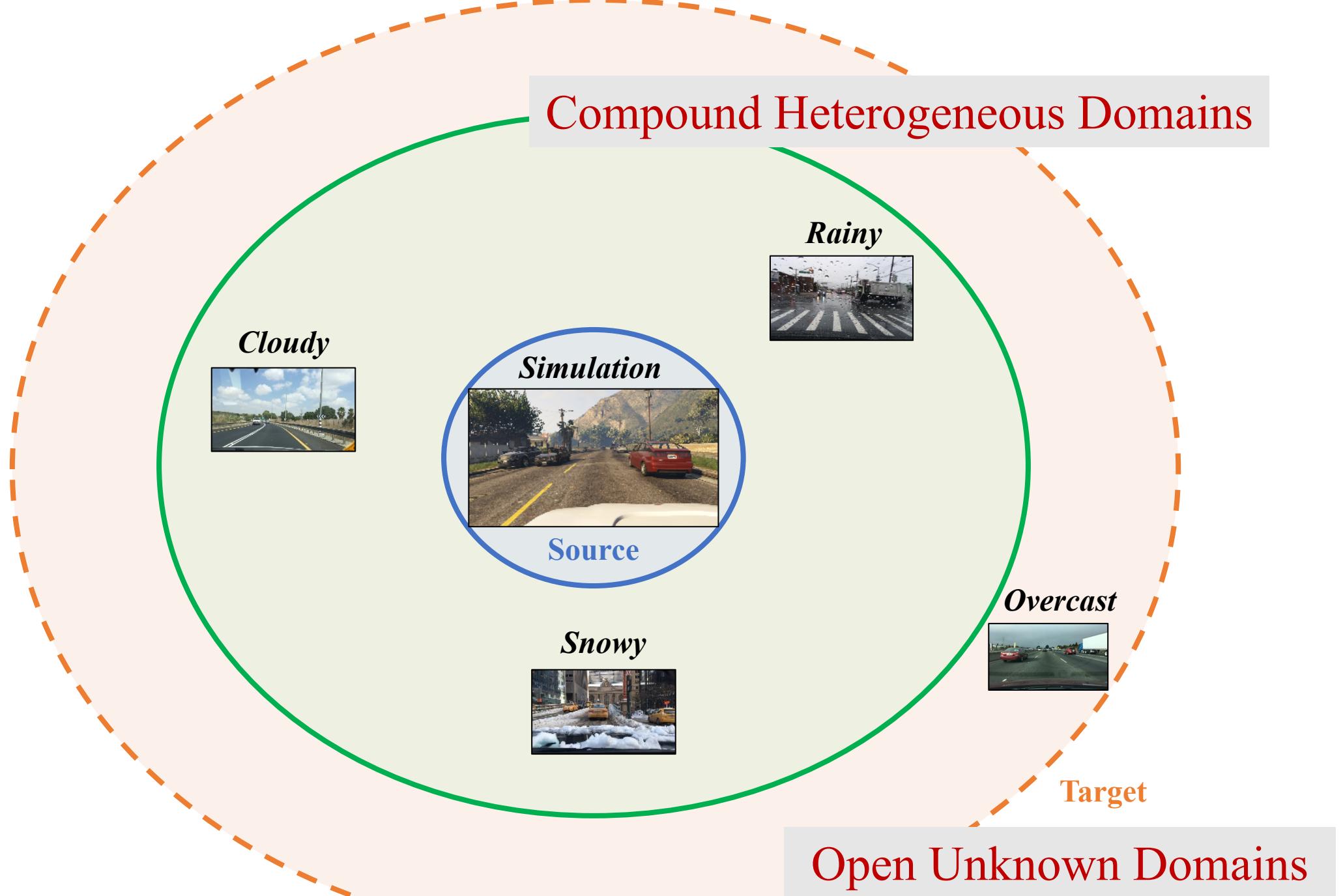
Google Inc.



Compound Heterogeneous Domains



Compound Heterogeneous Domains



Simulation



Open World Driving Conditions



Source

Simulation



Compound Targets

Open World Driving Conditions

...



Cloudy



Rainy

...



Overcast

Continuous Adaptation

Source

Simulation



Compound Targets

Open World Driving Conditions



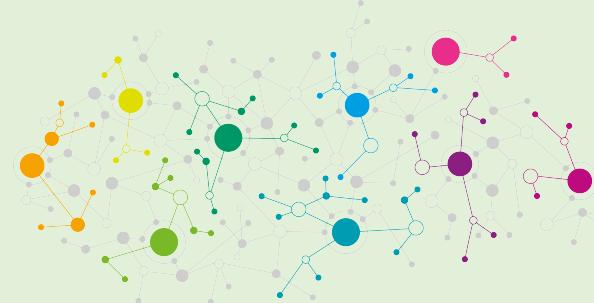
Domain
Disentanglement

Cloudy

Rainy

Overcast

instance-wise curriculum



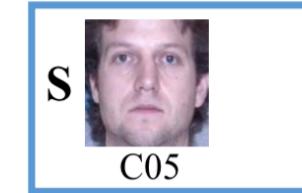
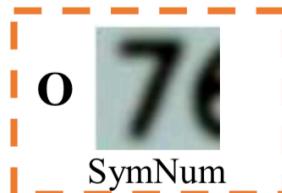
Adaptive
Knowledge Transfer



Continuous Adaptation

C-Digits Benchmark

Absolute Performance Gain: ~5%



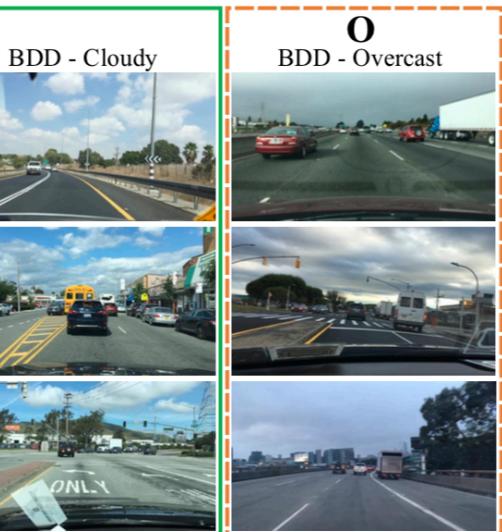
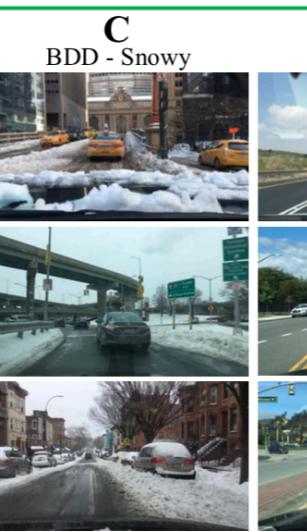
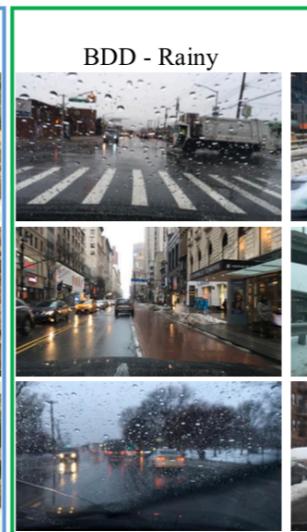
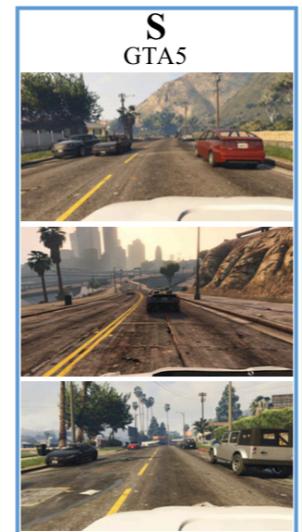
C-Faces Benchmark

Absolute Performance Gain: ~10%



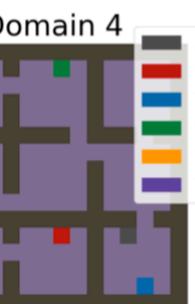
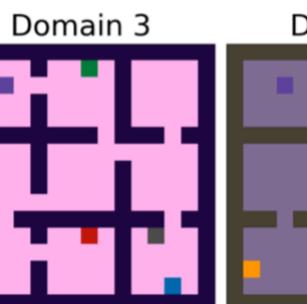
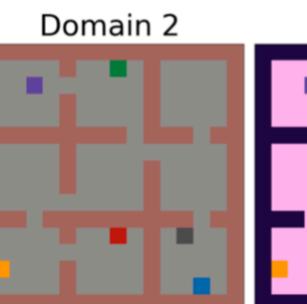
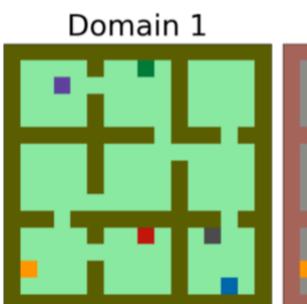
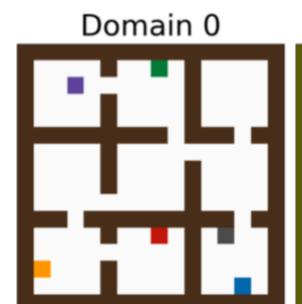
C-Driving Benchmark

Absolute Performance Gain: ~2%

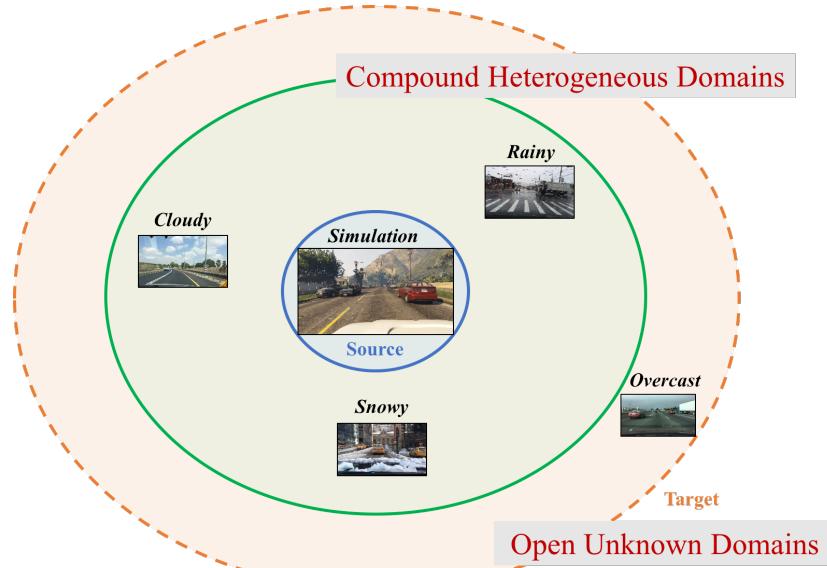


C-Mazes Benchmark

Absolute Performance Gain: ~30%

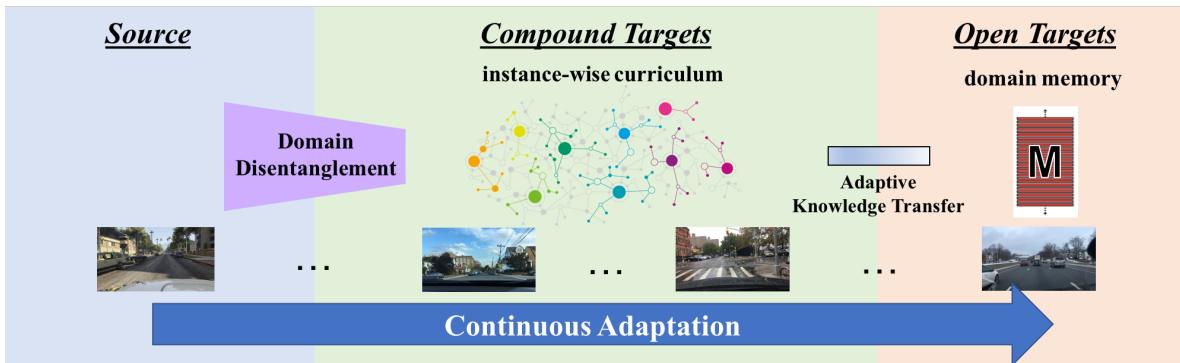


Agent
Treasure A
Treasure B
Treasure C
Treasure D
Treasure E



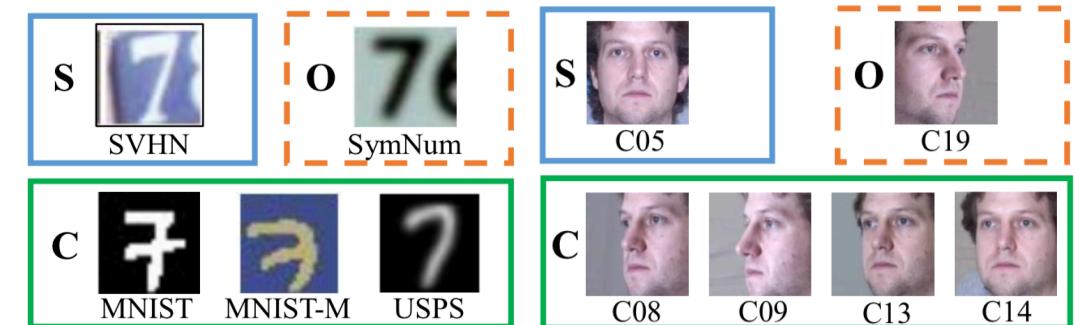
New Task

Open Compound Domain Adaptation(OCDA)



New Approach

Instance-wise Curriculum + Domain Memory



New Benchmarks

C-Digits, C-Faces, C-Driving, and C-Mazes

Thanks!



Code, models and benchmarks are available at

Project Page: <https://liuziwei7.github.io/projects/CompoundDomain.html>