



國立臺灣大學  
National Taiwan University



# Domain Generalized Person Re-Identification via Cross-Domain Episodic Learning

ICPR 2020

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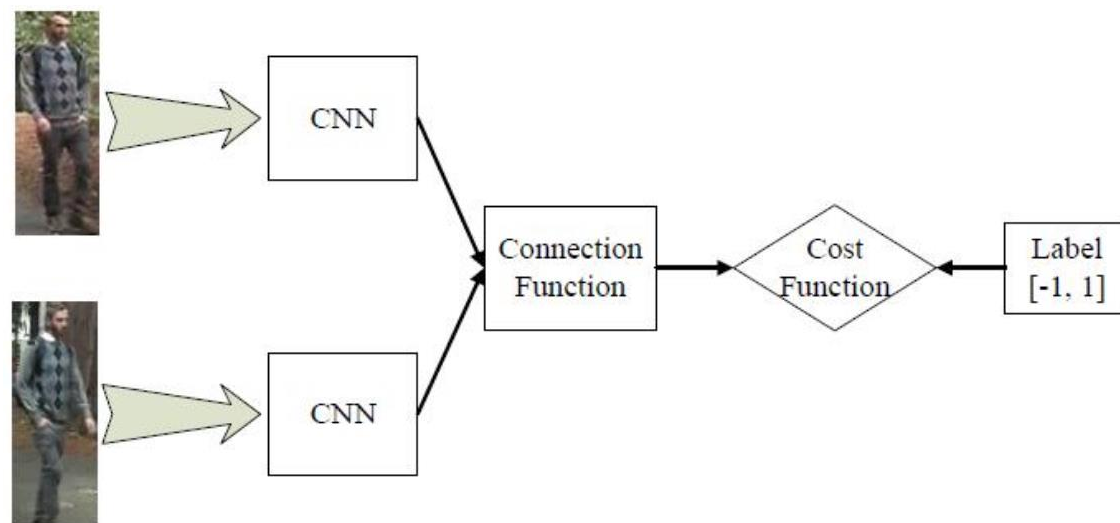
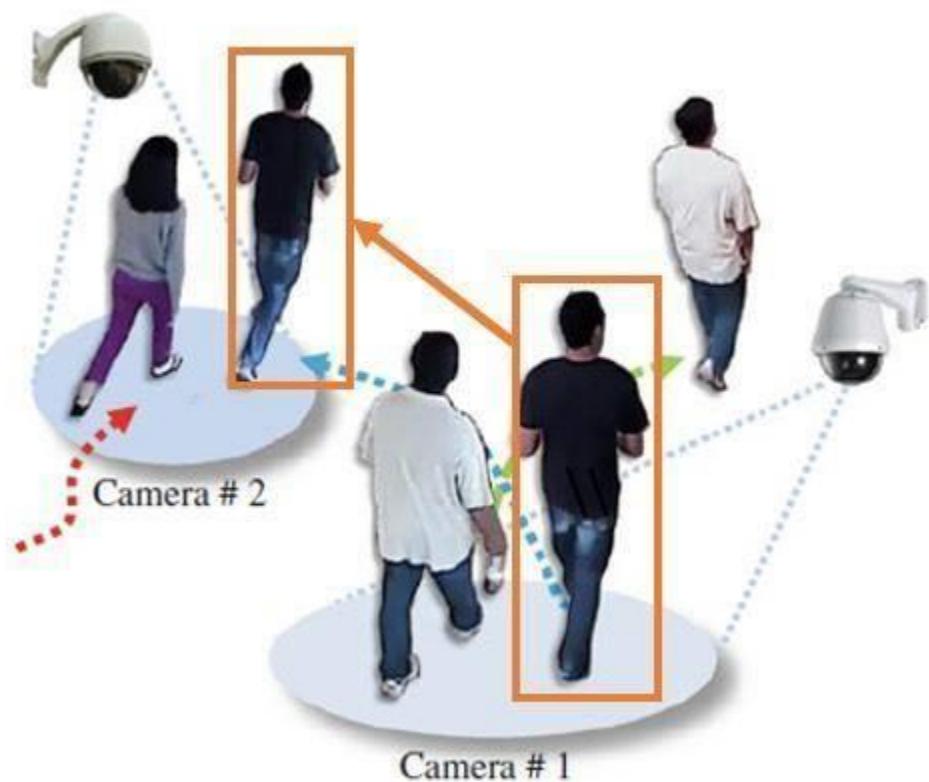
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# Person Re-ID

- Definition: Match person images across different cameras.



# Person Re-ID

- Challenges



Camera/View  
variation



Clothing similarity



Occlusion



Clutter

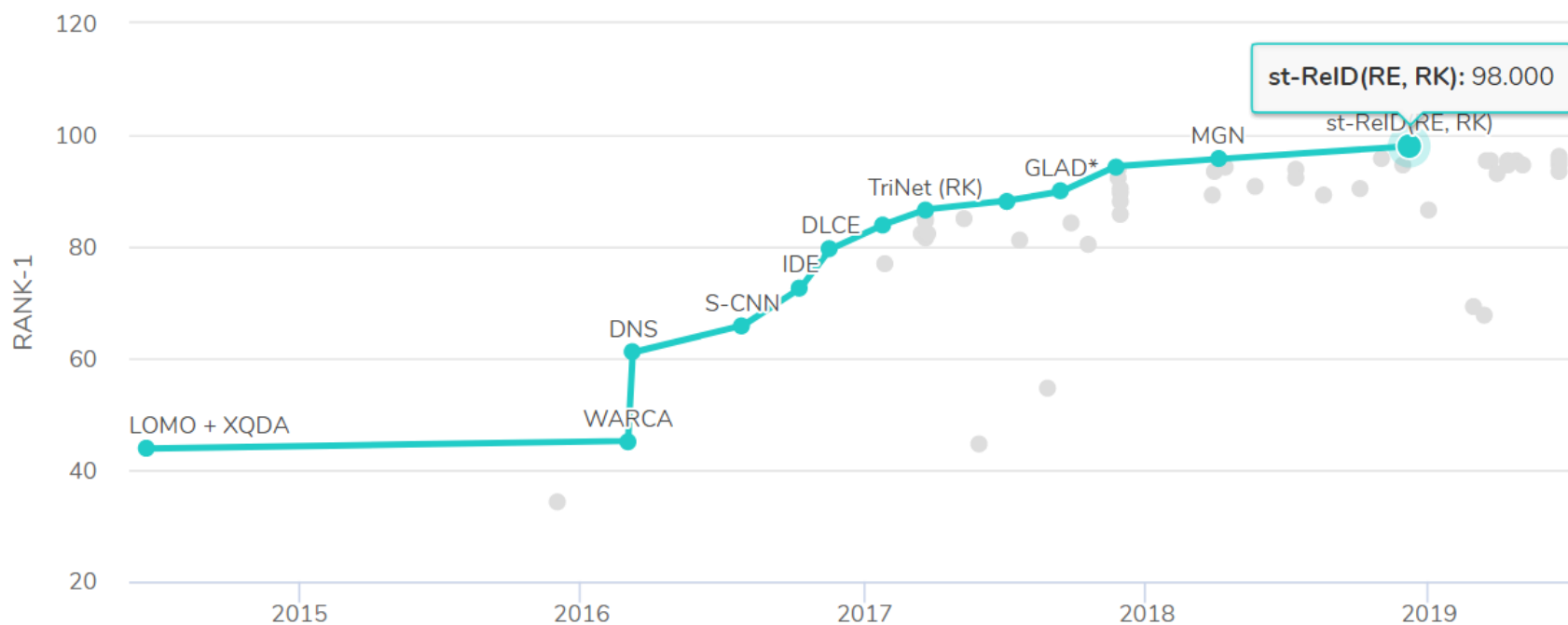


Pose variation

# Person Re-ID

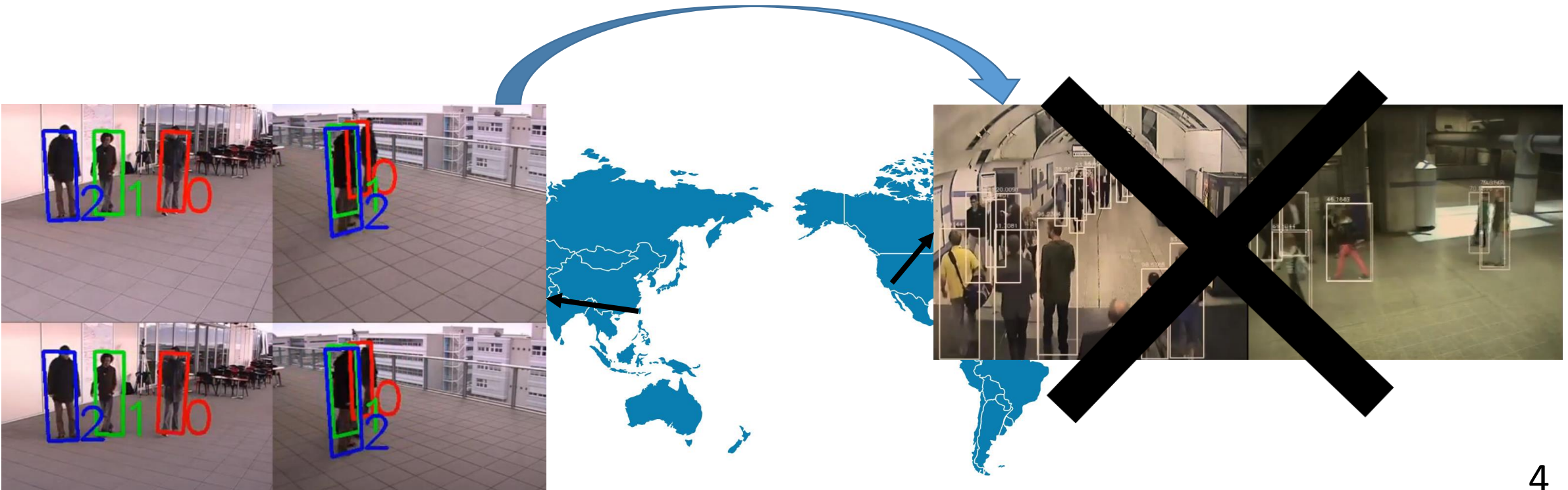
- Progress of supervised person re-identification

## Person Re-Identification on Market-1501



# Domain Generalized Person Re-ID

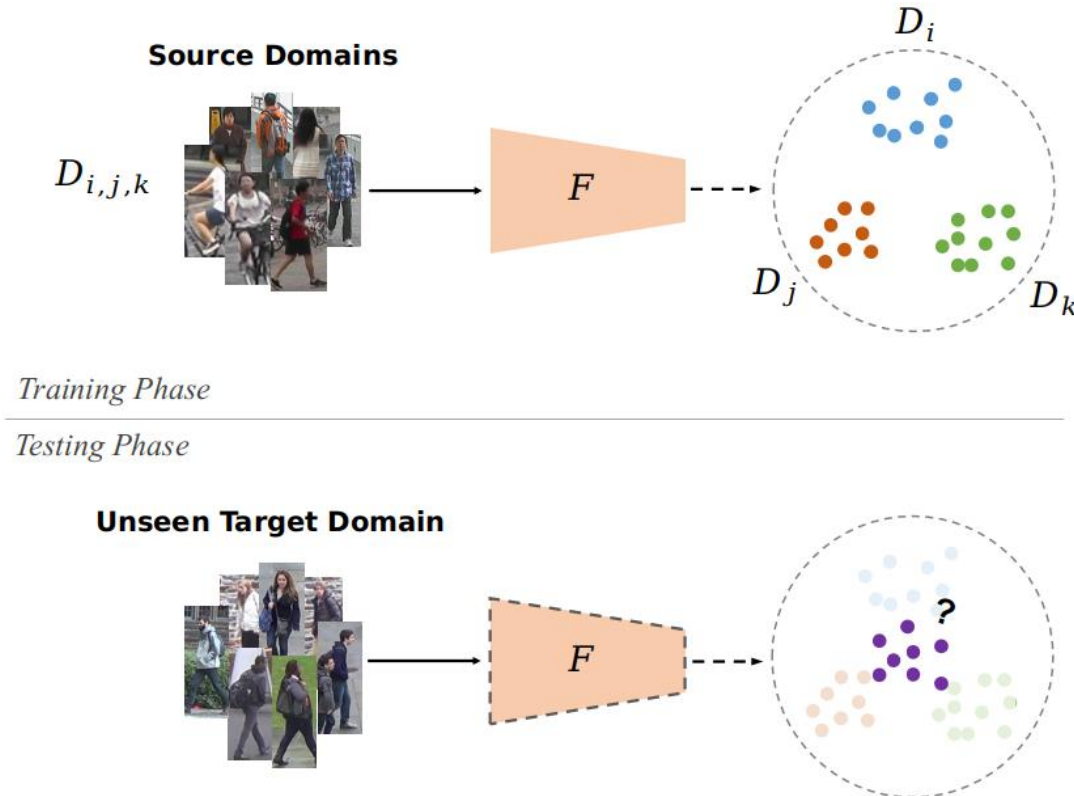
- A more challenging setting, **domain generalization**, is considered.
- No data (either **labeled** or **unlabeled**) from target domain is observed.





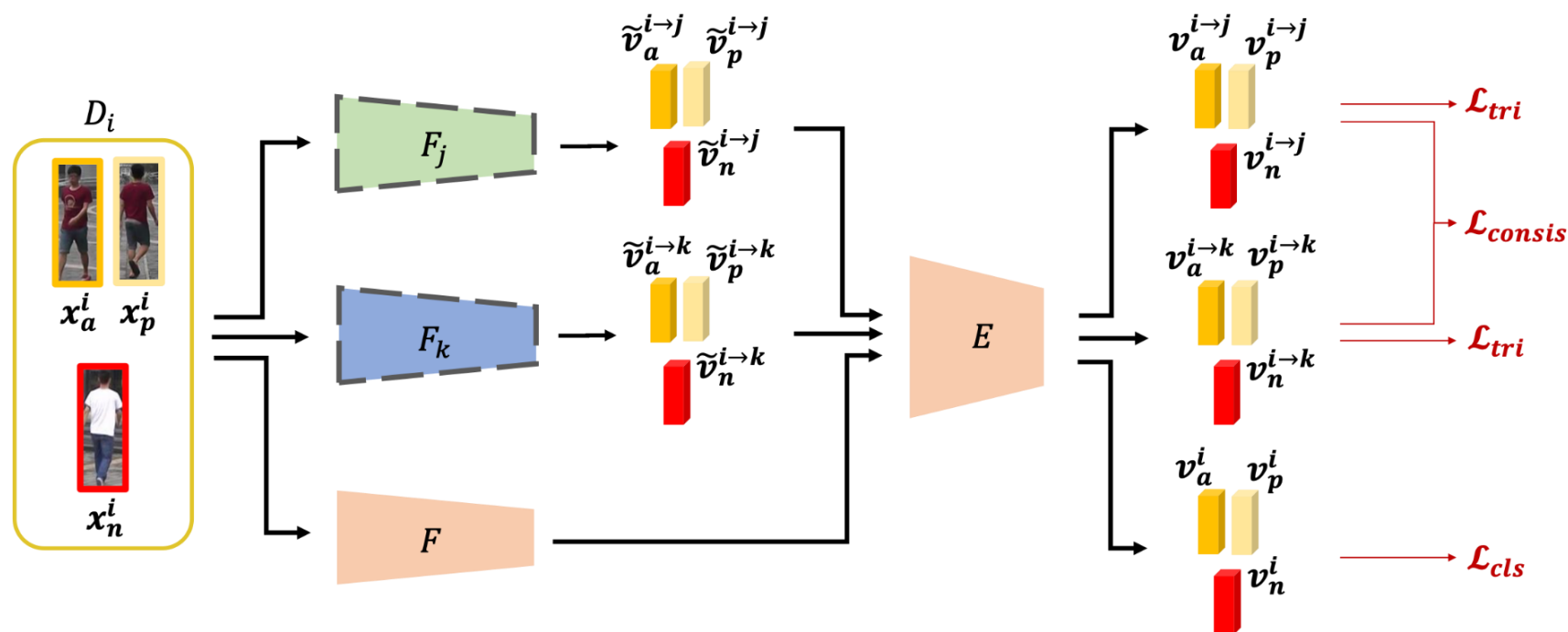
# Domain Generalized Person Re-ID

- A more challenging setting, **domain generalization**, is considered.
- No data (either **labeled** or **unlabeled**) from target domain is observed.



# Domain Generalized Person Re-ID

- Three domains  $D_i$ ,  $D_j$  and  $D_k$  are random sampled in each episode
- $D_i$  mimics the unseen domain, and  $D_j$  and  $D_k$  mimic source domains



# Experiments and Results

- Compared to SOTAs

Target	GRID	i-LIDS	PRID	VIPeR	Avg.
DIMN [19]	23.4	44.8	13.1	29.9	27.8
DualNorm [16]	29.2	58.3	54.3	<b>38.6</b>	45.1
Ours	<b>33.0</b>	<b>62.3</b>	<b>57.6</b>	38.5	<b>47.8</b>

Target	GRID	i-LIDS	PRID	VIPeR	Avg.
Baseline	18.8	52.5	14.8	32.0	29.5
DANN [34]	29.0	57.2	56.8	37.8	45.2
Ours	<b>33.0</b>	<b>62.3</b>	<b>57.6</b>	<b>38.5</b>	<b>47.8</b>



# Experiments and Results

- Ablation Study

Target	GRID	i-LIDS	PRID	VIPeR	Avg.
Ours w/o $\mathcal{L}_{tri}$	31.3	59.0	55.8	37.3	45.8
Ours w/o $\mathcal{L}_{consis}$	30.6	60.3	55.7	<b>40.1</b>	46.7
Ours	<b>33.0</b>	<b>62.3</b>	<b>57.6</b>	38.5	<b>47.8</b>

Thank you for listening!