

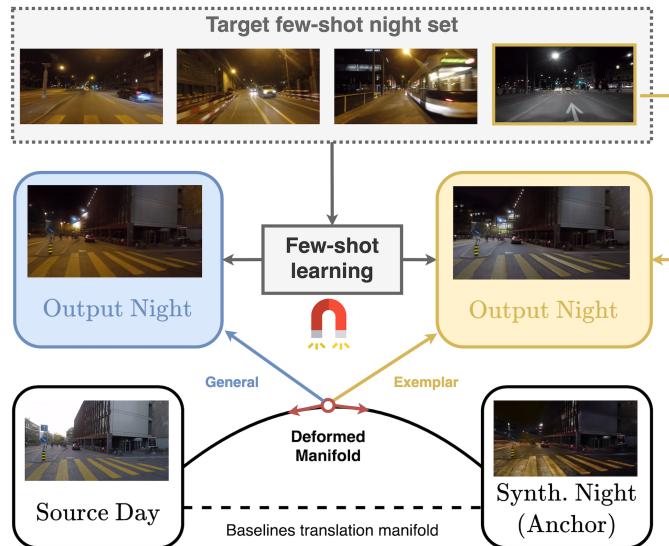


ManiFest: Manifold Deformation for Few-shot Image Translation

Fabio Pizzati^{1,2}, Jean-François Lalonde³, Raoul de Charette¹

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Code!
github.com/cv-rits/manifest



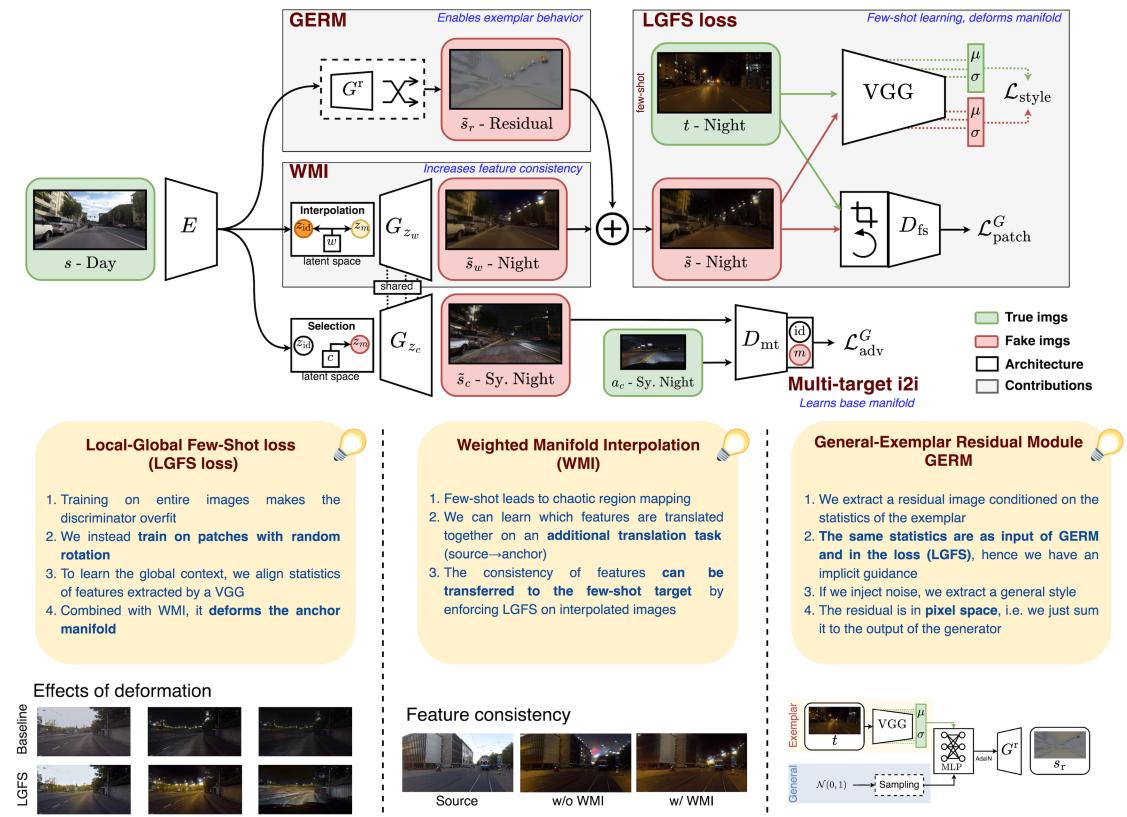
What it is

Novel **few-shot image-to-image translation** designed for **unstructured scenarios** (street scenes, landscapes...)

Contributions

1. Local-Global Few-Shot (LGFS) loss to avoid discriminator overfitting
2. Weighted Manifold Interpolation (WMI) for better feature consistency
3. General/Exemplar Residual Module (GERM) for unconditional and conditional outputs

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Method	$ \mathcal{A}_m $	$ \mathcal{T} $	FID ₁	LPIPS ₁
MUNIT [3]	0	400	79.20	0.529
MUNIT [3]	3090	0	132.72	0.613
G	MUNIT [3]	0	25	91.61
FUNIT [1]	3090	25	150.97	0.573
COCOFUNIT [4]	3090	25	201.67	0.544
Ours	3090	25	81.01	0.535
MUNIT [3]	0	400	87.71	0.522
MUNIT [3]	3090	0	142.04	0.559
E	MUNIT [3]	0	25	128.73
EFGC-IT [5]	3090	25	106.58	0.574
WCT ² [2]	-	-	80.57	0.580
Ours	3090	25	80.57	0.525

(a) Day → Night

Method	$ \mathcal{A}_m $	$ \mathcal{T} $	FID ₁	LPIPS ₁
G	FUNIT [1]	3090	25	69.53
Ours	3090	25	63.15	0.510
E	WCT ² [2]	-	-	71.77
Ours	3090	25	58.07	0.483

(b) Day → Twilight

Method	$ \mathcal{A}_m $	$ \mathcal{T} $	FID ₁	LPIPS ₁
G	FUNIT [1]	3090	25	122.4
Ours	3090	25	89.89	0.520
E	WCT ² [2]	-	-	120.9
Ours	3090	25	89.89	0.521

(c) Clear → Fog

SOTA comparison

