

Supplementary materials for

Deep learning for feature-level data fusion: Super-resolution of historical Landsat archives

Bin Chen^{1,*}, Jing Li², and Yufang Jin¹

¹Department of Land, Air and Water Resources, University of California,
Davis, CA 95616-8627, USA

²Department of Computer Science, University of California, Davis, CA 95616-8562, USA

*Corresponding author: Bin Chen (bch@ucdavis.edu)

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Table S1

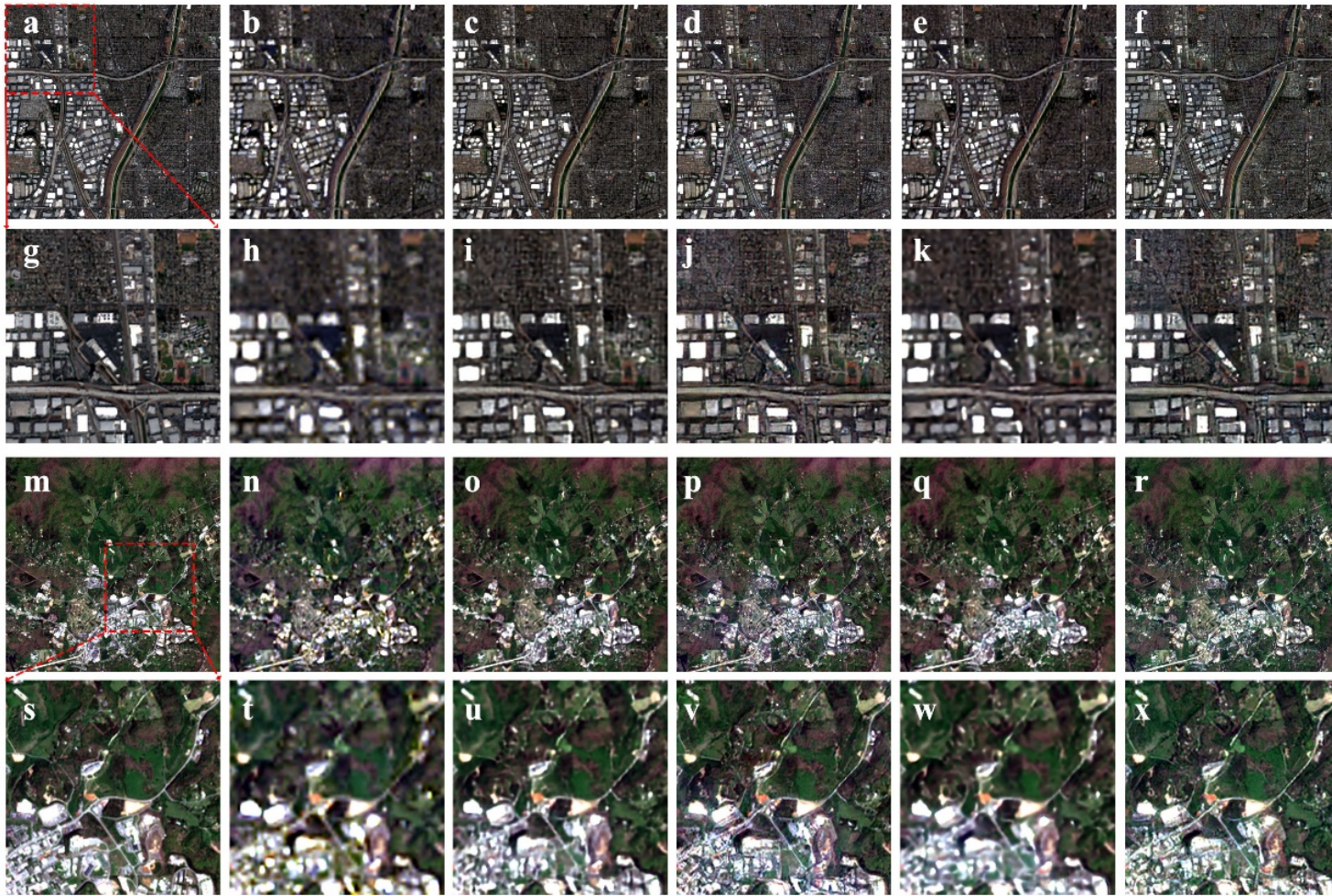


Figure S1. Super-resolution results in the real data experiment. From left to right: original Sentinel-2, interpolated, Non-GAN derived (RS only), GAN derived (RS only), Non-GAN derived (RS & natural images), and GAN derived (RS & natural images) images at the site A (a-l) and site B (m-x). For site A, (g-l) are shown as the zoomed-in comparison of (a-f); for site B, (s-x) are shown as the zoomed-in comparison of (m-r).

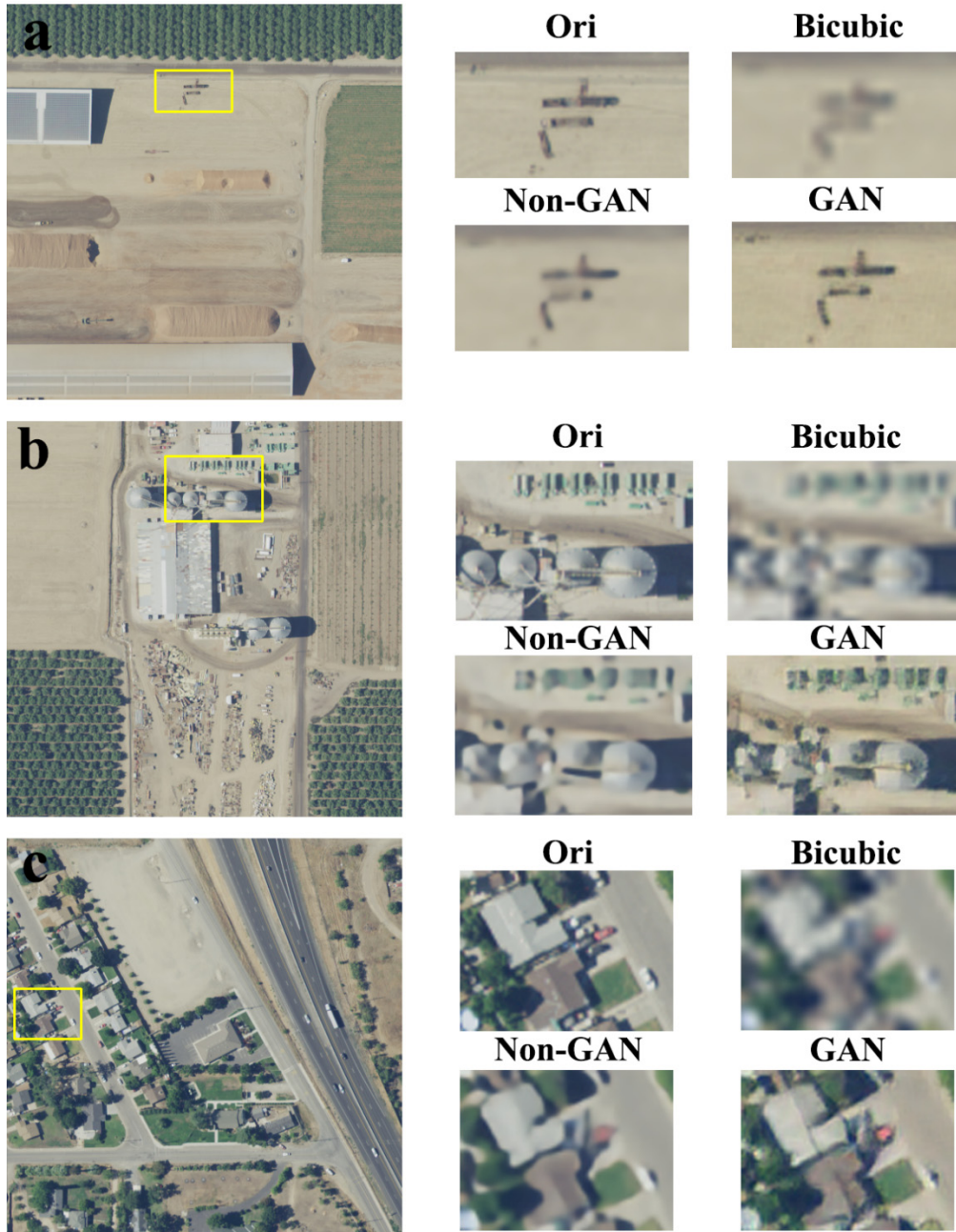


Figure S2. Super-resolution results using NAIP imagery. The reference high-resolution images from NAIP-0.6m are shown on the left. On the right are zoomed-in subsets of the yellow box from original reference, bicubic interpolation, Non-GAN derived, and GAN-derived results.

Table S1. Comparison of Landsat and Sentinel-2 bandwidth.

Band \ Satellite	Landsat-5	Landsat-7	Landsat-8	Sentinel-2A	Sentinel-2B
Blue	0.45-0.52	0.45-0.52	0.45-0.51	0.46-0.52	0.46-0.52
Green	0.52-0.60	0.52-0.60	0.53-0.59	0.54-0.58	0.54-0.58
Red	0.63-0.69	0.63-0.69	0.64-0.67	0.65-0.68	0.65-0.68
NIR	0.76-0.90	0.77-0.90	0.85-0.88	0.79-0.90	0.79-0.90
SWIR1	1.55-1.75	1.55-1.75	1.57-1.65	1.57-1.66	1.57-1.66
SWIR2	2.08-2.35	2.09-2.35	2.11-2.29	2.10-2.28	2.10-2.28

Table S2. Accuracy assessment of two training scenarios in actual experiment.

Measures	RS only		RS & Natural Image	
	Non-GAN	GAN	Non-GAN	GAN
QI	0.645±0.137	0.371±0.149	0.528±0.127	0.365±0.141
PSNR	41.500±6.026	37.140±5.746	39.759±6.137	37.064±5.897
RMSE	0.012±0.014	0.018±0.015	0.014±0.014	0.018±0.015
ERGAS	12.025±15.091	18.662±14.993	14.459±15.218	18.903±15.265
NIQE	5.368±0.855	3.400±0.696	5.845±0.819	3.470±0.767
PIQE	64.677±12.415	28.619±11.365	75.427±12.046	28.697±12.008
BRISQUE	44.249±4.370	30.272±6.329	47.545±4.123	29.063±6.640