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Image Processing: Convert a Sketch into Coloures Image using cGAN

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Abstract: *Synthesizing realistic images from human drawn sketches is a challenging problem in computer graphics and vision. Existing approaches either need exact edge maps, or rely on retrieval of existing photographs. In this work, we propose a novGenerative Adversarial Network(GAN) approach that synthesizes plausible images from 50 categories including motorcycles, horses and couches. We demonstrate a data augmentation technique for sketches which is fully automatic, and we show that the augmented data is helpful to our task. We introduce a new network building block suitable for both the generator and discriminator which improves the information flow by injecting the input image at multiple scales. Compared to state-of-the-art image translation methods, our approach generates more realistic images and achieves significantly higher Inception Scores.*

Keywords: Image abstraction, Implementation, Data augmentation, Training, Testing

REFERENCES

[1]. D. Berthelot, T. Schumm, and L. Metz. Began: Boundary equilibrium generative adversarial networks. arXiv preprint arXiv:1703.10717, 2017.

[2]. K. Bousmalis , N. Silberman, D. Dohan, D. Erhan, and D. Krishnan. Unsupervised pixel-level domain adaptation with generative adversarial networks. In The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), July 2017.

[3]. Y. Cao, C. Wang, L. Zhang, and L. Zhang. Edgel index for large-scale sketch-based image search. In The IEEE Conference on Computer Vision and Pattern Recognition (CVPR),pages 761–768. IEEE, 2011.

[4]. Y. Cao, H. Wang, C. Wang, Z. Li, L. Zhang, and L. Zhang . Mind finder: interactive sketch-based image search on millions of images. In Proceedings of the 18th ACM international conference on Multimedia, pages 1605–1608. ACM,2010.

[5]. Q. Chen and V. Koltun. Photographic image synthesis with cascaded refinement networks. In The IEEE International Conference on Computer Vision (ICCV), Oct 2017.

[6]. T. Chen, M.-M. Cheng, P. Tan, A. Shamir, and S.-M. Hu.Sketch2photo: Internet image montage. ACM Transactions on Graphics (TOG), 28(5):124, 2009.

[7]. T. Chen, P. Tan, L.-Q. Ma, M.-M. Cheng, A. Shamir, and S.-M. Hu. Poseshop : Human image database construction and personalized content synthesis. IEEE Transactions on Visualization and Computer Graphics, 19(5):824–837, 2013.