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Secure Captchas via Object Segment Collages

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Abstract: *In current scenario of web based security, CAPTCHA security is trending and widely used in many applications. The major functional requirement of CAPTCHA is that it should be easy for the human interpretation but difficult for the bots to identify it. CAPTCHA, a short form of ''Fully Automated Public Turing test to Tell Computers and Humans Piecemeal '', is a computer program that can induce and grade tests that most humans can pass, but current computer programs cannot. This paper advances exploration on image- grounded CAPTCHA by incorporating the object member collages. We first collect object parts from thousands of images by using our nature- developed collection tool. Also, we make an image collage that compiles aimlessly elected object parts. To increase the difficulty for computer discovery algorithms, we entrench some features similar as noisy background, object member occlusion and object part exposure update. We also develop a practical operation using the recently proposed Object Member Collage CAPTCHA. For the evaluation, we measure the delicacy performance of computer vs. mortal in working CAPTCHA questions. In addition, we also conduct a stoner study over different CAPTCHA ways. Segmentation is one of the fundamental route for image processing. This paper enumerates and gives the almost study of varied image segmentation algorithms and their evaluation ways. Eventually after a number of relative trials some precious results are being given.*

Keywords: CAPTCHA, Object Segments, Image Collages, Image Processing

REFERENCES

[1]. M. A. Alcorn, Q. Li, Z. Gong, C. Wang, L. Mai, W.-S. Ku, and A. Nguyen, ''Strike (with) a pose: Neural networks are easily fooled by strange poses of familiar objects,'' in Proc. IEEE/CVF Conf. Compute. Vis. Pattern Recognit. (CVPR), Jun. 2019, pp. 4845–4854.
[2]. T. V. Nguyen, K. Nguyen, and T.-T. Do, ''Semantic prior analysis for salient object detection,'' IEEE Trans. Image Process., vol. 28, no. 6, pp. 3130–3141, Jun. 2019.
[3]. K. He, G. Gkioxari, P. Dollár, and R. Girshick, ''Mask R-CNN,'' IEEE Trans. Pattern Anal. Mach. Intell., 2018
[4]. M. Osadchy, J. Hernandez-Castro, S. Gibson, O. Dunkelman, and D. Pérez-Cabo, ''No bot expects the DeepCAPTCHA! Introducing immutable adversarial examples, with applications to CAPTCHA generation,'' IEEE Trans. Inf. Forensics Security, vol. 12, no. 11, pp. 2640–2653, Nov. 2017.
[5]. I. J. Goodfellow, Y. Bulatov, J. Ibarz, S. Arnoud, and V. Shet, ''Multidigit number recognition from street view imagery using deep convolutional neural networks,'' 2013, arXiv:1312.6082. [Online]. Available: http://arxiv.org/abs/1312.6082
[6]. A. Smarty. (2009). Impossible CAPTCHA : It Doesn't Really Matter if You are Human or Not. [Online]. Available: http://www.seosmarty.com/impossible-captcha-it-doesnt-really-matter-ifyou-arehuman-or-not/
[7]. D. Morrison, S. Marchand-Maillet, and E. Bruno, ''Tag-Captcha: Annotating images with CAPTCHAs,'' in Proc. ACM SIGKDD Workshop Hum. Comput., 2009, pp. 44–45.
[8]. S. A. Ross, J. A. Halderman, and A. Finkelstein, ''Sketcha: A captcha based on line drawings of 3d models,'' in Proc. 19th Int. Conf. World Wide Web, vol. 10, pp. 821–830, Apr. 2010.
[9]. Google reCAPTCHA. [Online]. Available: https://www.google. com/reCAPTCHA
[10]. A. Torralba, R. Fergus, and W. T. Freeman, ''80 million tiny images: A large data set for nonparametric object and scene recognition,'' IEEE Trans. Pattern Anal. Mach. Intell., vol. 30, no. 11, pp. 1958–1970, Nov. 2008.

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