

possibilities of return-on-investment savings when maps for gaming and metaverse applications are created by hand or with machine/human in the loop.

Acknowledgements

The author would like to acknowledge the support of Prof. Chunyuan Diao, Assistant Professor, Department of Geography & Geographic Information Science, University of Illinois at Urbana-Champaign and James Oneil Smith, Graduate Student at Department of Geography & Geographic Information Science, University of Illinois at Urbana-Champaign towards this research project.

References

- Arjovsky, M.; Chintala, S.; and Bottou, L. 2017. Wasserstein Generative Adversarial Networks. *Proceedings of the 34th International Conference on Machine Learning*, Sydney, Australia, PMLR 70, 2017.
- Bucher, B., Schlieder, C., Cantat, F., Kavouras, M., Streilein, A., & Severo, M. (2018). Mapping places for digital natives and other generations.
- Chan, C.; Ginosar, S.; Zhou, T.; and Efros, A. A. 2018. Everybody dance now. arXiv preprint arXiv:1808.07371.
- Ganguli, S., Garzon, P., & Glaser, N. (2019). GeoGAN: A conditional GAN with reconstruction and style loss to generate standard layer of maps from satellite images. arXiv preprint arXiv:1902.05611.
- Goodfellow, I. J.; Pouget-Abadie, J.; Mirza, M.; Xu, B.; Warde-Farley, D.; Ozair, S.; Courville, A.; and Bengio, Y. 2014. Generative Adversarial Networks. arXiv:1406.2661.
- Gulrajani, I.; Ahmed, F.; Arjovsky, M.; Dumoulin, V.; and Courville, A. 2017. Improved Training of Wasserstein GANs. arXiv:1704.00028.
- Wang, X., Yan, H., Huo, C., Yu, J., & Pant, C. (2018). Enhancing Pix2Pix for remote sensing image classification. In 2018 24th International Conference on Pattern Recognition (ICPR) (pp. 2332-2336). IEEE.
- Statham, Nataska. "Use of Photogrammetry in Video Games: A Historical Overview." *Games and Culture* 15, no. 3 (2018): 289–307.