

Bibliography

- [1] Bank, Dor, Koenigstein, Noam, and Giryas, Raja. “Autoencoders”. In: *arXiv* (2020). eprint: 2003.05991.
- [2] Bishop, Christopher M. *Pattern recognition and Machine learning*. Springer Science, 2209.
- [3] Chamroukhi, F. “Robust mixture of experts modeling using the t distribution”. In: *Neural Networks* 79 (2016), pp. 20–36. ISSN: 0893-6080. DOI: 10 . 1016 / j . neunet . 2016 . 03 . 002. eprint: 1701.07429.
- [4] Dai, Wenyuan, Yang, Qiang, Xue, Gui-Rong, and Yu, Yong. “Self-taught clustering”. In: *Proceedings of the 25th international conference on Machine learning - ICML '08* (2008), pp. 200–207. DOI: 10 . 1145/1390156 . 1390182.
- [5] Fragkiadaki, Katerina, Levine, Sergey, Felsen, Panna, and Malik, Jitendra. “Recurrent Network Models for Human Dynamics”. In: *2015 IEEE International Conference on Computer Vision (ICCV)* (2015), pp. 4346–4354. DOI: 10 . 1109 / iccv . 2015 . 494.
- [6] Gadelmawla, E.S., Koura, M.M., Maksoud, T.M.A., Elewa, I.M., and Soliman, H.H. “Roughness parameters”. In: *Journal of Materials Processing Technology* 123.1 (2002), pp. 133–145. ISSN: 0924-0136. DOI: 10 . 1016/s0924-0136(02)00060-2.
- [7] Glorot, Xavier and Bengio, Yoshua. “Understanding the difficulty of training deep feedforward neural networks”. In: *Proceedings of the Thirteenth International Conference on Artificial Intelligence and Statistics*. Ed. by Yee Whye Teh and Mike Titterton. Vol. 9. Proceedings of Machine Learning Research. Chia Laguna Resort, Sardinia, Italy: PMLR, 13–15 May 2010, pp. 249–256. URL: [https : / / proceedings.mlr.press/v9/glorot10a.html](https://proceedings.mlr.press/v9/glorot10a.html).
- [8] Gopalakrishnan, Anand, Mali, Ankur, Kifer, Dan, Giles, C Lee, and Ororbia, Alexander G. “A Neural Temporal Model for Human Motion Prediction”. In: *arXiv* (2018). eprint: 1809.03036.

- [9] Harvey, Félix G., Yurick, Mike, Nowrouzezahrai, Derek, and Pal, Christopher. “Robust motion in-betweening”. In: *ACM Transactions on Graphics (TOG)* 39.4 (2020), 60:1–60:12. ISSN: 0730-0301. DOI: 10.1145/3386569.3392480.
- [10] Hochreiter, Sepp and Schmidhuber, Jrgen. “Long Short-Term Memory”. In: *Neural Computation* 9.8 (1997), pp. 1735–1780. ISSN: 0899-7667. DOI: 10.1162/neco.1997.9.8.1735.
- [11] Hodgins, Jessica K., Wooten, Wayne L., Brogan, David C., and O’Brien, James F. “Animating Human Athletics”. In: *Proceedings of the 22nd Annual Conference on Computer Graphics and Interactive Techniques*. SIGGRAPH ’95. New York, NY, USA: Association for Computing Machinery, 1995, pp. 71–78. ISBN: 0897917014. DOI: 10.1145/218380.218414.
- [12] Holden, Daniel, Komura, Taku, and Saito, Jun. “Phase-functioned neural networks for character control”. In: *ACM Transactions on Graphics (TOG)* 36.4 (2017), pp. 1–13. ISSN: 0730-0301. DOI: 10.1145/3072959.3073663.
- [13] Krizhevsky, Alex, Sutskever, Ilya, and Hinton, Geoffrey E. “ImageNet classification with deep convolutional neural networks”. In: *Communications of the ACM* 60.6 (2017), pp. 84–90. ISSN: 0001-0782. DOI: 10.1145/3065386.
- [14] “Kruskal-Wallis Test”. In: *The Concise Encyclopedia of Statistics*. New York, NY: Springer New York, 2008, pp. 288–290. ISBN: 978-0-387-32833-1. DOI: 10.1007/978-0-387-32833-1_216.
- [15] Ling, Hung Yu, Zinno, Fabio, Cheng, George, and Panne, Michiel Van De. “Character controllers using motion VAEs”. In: *ACM Transactions on Graphics (TOG)* 39.4 (2020), 40:1–40:12. ISSN: 0730-0301. DOI: 10.1145/3386569.3392422.
- [16] Mao, Xudong, Li, Qing, Xie, Haoran, Lau, Raymond Y K, Wang, Zhen, and Smolley, Stephen Paul. “Least Squares Generative Adversarial Networks”. In: *arXiv* (2016). eprint: 1611.04076.
- [17] McCloskey, Michael and Cohen, Neal J. “Catastrophic Interference in Connectionist Networks: The Sequential Learning Problem”. In: *Psychology of Learning and Motivation* 24 (1989), pp. 109–165. ISSN: 0079-7421. DOI: 10.1016/s0079-7421(08)60536-8.
- [18] Mills, T.C. and Mills, T.C. *Time Series Techniques for Economists*. Cambridge University Press, 1990. ISBN: 9780521405744.

- [19] Parent, Rick. “Computer Animation (Third Edition)”. In: (2012), pp. 111–160. DOI: 10.1016/b978-0-12-415842-9.00004-6.
- [20] Parent, Rick. “Computer Animation (Third Edition)”. In: (2012), p. 1. DOI: 10.1016/b978-0-12-415842-9.00007-1.
- [21] Parent, Rick. “Computer Animation (Third Edition)”. In: (2012), pp. 161–185. DOI: 10.1016/b978-0-12-415842-9.00005-8.
- [22] Peng, Xue Bin, Abbeel, Pieter, Levine, Sergey, and Panne, Michiel van de. “DeepMimic”. In: *ACM Transactions on Graphics (TOG)* 37.4 (2018), pp. 1–14. ISSN: 0730-0301. DOI: 10.1145/3197517.3201311. eprint: 1804.02717.
- [23] Šidák, Zbyněk. “Rectangular Confidence Regions for the Means of Multivariate Normal Distributions”. In: *Journal of the American Statistical Association* 62.318 (2012), pp. 626–633. ISSN: 0162-1459. DOI: 10.1080/01621459.1967.10482935.
- [24] Starke, Sebastian, Hendrich, Norman, and Zhang, Jianwei. “Memetic Evolution for Generic Full-Body Inverse Kinematics in Robotics and Animation”. In: *IEEE Transactions on Evolutionary Computation* 23.3 (2019), pp. 406–420. ISSN: 1089-778X. DOI: 10.1109/tevc.2018.2867601.
- [25] Starke, Sebastian, Zhang, He, Komura, Taku, and Saito, Jun. “Neural state machine for character-scene interactions”. In: *ACM Transactions on Graphics (TOG)* 38.6 (2019), pp. 1–14. ISSN: 0730-0301. DOI: 10.1145/3355089.3356505.
- [26] Starke, Sebastian, Zhao, Yiwei, Komura, Taku, and Zaman, Kazi. “Local motion phases for learning multi-contact character movements”. In: *ACM Transactions on Graphics (TOG)* 39.4 (2020), 54:1–54:13. ISSN: 0730-0301. DOI: 10.1145/3386569.3392450.
- [27] Taylor, Graham W, Hinton, Geoffrey E, and Roweis, Sam. “Modeling Human Motion Using Binary Latent Variables”. In: *Advances in Neural Information Processing Systems*. Ed. by B. Schölkopf, J. Platt, and T. Hoffman. Vol. 19. MIT Press, 2007.
- [28] Xie, Junyuan, Girshick, Ross, and Farhadi, Ali. “Unsupervised Deep Embedding for Clustering Analysis”. In: *arXiv* (2015). eprint: 1511.06335.
- [29] Zhang, He, Starke, Sebastian, Komura, Taku, and Saito, Jun. “Mode-adaptive neural networks for quadruped motion control”. In: *ACM Transactions on Graphics (TOG)* 37.4 (2018), pp. 1–11. ISSN: 0730-0301. DOI: 10.1145/3197517.3201366.

- [30] Zhuang, Fuzhen et al. “A Comprehensive Survey on Transfer Learning”. In: *arXiv* (2019). eprint: 1911.02685.

Appendix - Contents

A The screenshots of the generated animation clips by the reference FC-OMG models

B Raw result

- B.1 Reference performance values
- B.2 Transferred performance values