

A new video analysis algorithm for the study of crowd dynamics

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April 16, 2019

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Abstract

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9 References

- [1] Bolei Zhou, Xiaoou Tang, and Xiaogang Wang. “Measuring Crowd Collectiveness”. In: CVPR ’13 (2013), pp. 3049–3056. DOI: 10.1109/CVPR.2013.392. URL: <http://mmlab.ie.cuhk.edu.hk/projects/collectiveness/dataset.htm>.
- [2] Joseph Redmon and Ali Farhadi. “YOLOv3: An Incremental Improvement”. In: *arXiv* (2018).
- [3] B. J. Berne and R. Pecora. *Dynamic light scattering. With applications to chemistry, biology, and physics*. 1976.

10 Appendices

10.1 Code