Gait Transformer: Silhouette-Based View-Invariant Gait Recognition Model

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***Abstract*—Gait recognition a significant image-based metric for pedestrian gait pattern identification in long range. It is proved to be an effective and profound prevention for social insecurity. Previous research focused on distinguishing the view angels of walking poses and conducting the probe division based on the silhouettes. Recent developments pay great emphasis to generating skeletons as a new feature in walking poses in pursuit of increasing accuracy. On the other hand, it complicates the whole detection pipeline and provokes the exponential increment in the number of classes of training data. In this article, we present a novel deep learning model Gait Transformer based on recent popular computer vision architecture Vision Transformer to identify gait patterns without the preprocessing of view classification and skeleton generation. During training and evaluation, our model adapts the widely used and tested CASIA-B silhouette dataset. Experiments show that our model is a strong competitor to other current state-of-the-art methods and there is still plenty room for improvement. Our accuracy is decent amongst all gait recognition frameworks and it is still far from fine-tuning all hyper-parameters. Despite the promising enhancement in gait recognition, the transformer structure inherently demands abundant training data to achieve better accuracy, which is also a restriction of our current optimization.**

***Index Terms*—Transformer, Gait Recognition, Silhouette-Based, View-Invariant**

I. Introduction

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II. Conclusion

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Appendix A
Proof of the First Zonklar Equation

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Appendix B

Appendix two text goes here.

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References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.

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