Implementing Deep Learning tools and/or techniques in predicting football results – Literature Review

Plan:

1. Introduction into Deep Learning (500 words) – Explain what is deep learning with relevant references. Explanation on splitting data in training set and validation set to allow for a model to be trained.
2. Example 1 on Football prediction (350 words) – reference to a real life example. Critique by giving pros/cons, and its effectiveness in predicting results. References to python/r being used in visuals could be explored.
3. Example 2 on Football prediction (350 words) – find another example, with different methodology, repeat the steps from example 1.
4. Example 3 on Football prediction (350 words) – repeat to steps 2 and 3.
5. Summarise and compare the three examples (450 words) – Looking to give a verdict on the best method, and what would need to be done next time.

References –

Kelleher, J.D. (2019) Deep learning. MIT press.

Raschka, S., & Mirjalili, V. (2019) Python Machine Learning: Machine Learning and Deep Learning with Python, scikit-learn, and TensorFlow 2. Packt Publishing.

Eelbode, T., Sinonquel, P., Maes, F. and Bisschops, R. (2021) Pitfalls in training and validation of deep learning systems. Best Practice & Research Clinical Gastroenterology, 52, p.101712.

Rahman, M.A. (2020) A deep learning framework for football match prediction. SN Applied Sciences, 2(2), p.165. **Example 1**

Tiwari, E., Sardar, P. and Jain, S. (2020) Football match result prediction using neural networks and deep learning. In 2020 8th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO) (pp. 229-231). IEEE. **Example 2**

Muszaidi, M., Mustapha, A.B., Ismail, S. and Razali, N. (2022) Deep Learning Approach for football match classification of English Premier League (EPL) based on full-time results. In Proceedings of the 7th International Conference on the Applications of Science and Mathematics 2021: Sciemathic 2021 (pp. 339-350). Singapore: Springer Nature Singapore. **Example 3**

Beal, R., Norman, T.J., and Ramchurn, S.D. (2020) AI for sports: the application of machine learning to scout football players. IEEE Transactions on Knowledge and Data Engineering, 32(10), pp.1935-1946.