Motivational Letter

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Machine learning is improving our understanding in climate and weather processes. Advances in the field of machine learning can be leveraged and transferred to climate domain [1]. The transferability enables the emulation of climate models using neural nets with higher accuracy and computational efficiency [2]. However, the use of unsupervised machine learning methods should not be overlooked as they have so much potential to discover novel relationships and unknown patterns.

Big data analyses on climate data can be conducted using various unsupervised learning algorithms. For instance, we can cluster various climate conditions and zones [3] with the help of k-means clustering, or run a principal component analysis for dimensionality reduction and spot meaningful latent variables in climate domains. This is followed by model evaluation using visualisation techniques and various metrics.

I have a strong theoretical background in machine learning and data science in general from my undergraduate studies at Oxford. I also gained some practical experience in Python and Linux environment during my doctoral studies in Edinburgh. I believe I am well-suited to be working on a project as a team, and I look forward to connecting and working with other promising researchers.

References

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