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Discussions

Interactive comment on "A Hybridized NGBoost-XGBoost Framework for Robust Evaporation and Evapotranspiration Prediction" *by* Hakan Başağaoğlu et al.

Anonymous Referee #2

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This paper is not well motivated and lacks focus. The point of E0 modeling by XGBoost was to saved computation. The P-M equation is very simple and the computational time is negligible. Ea and Esw might have some value, but there lacked comparisons with other methods. Why can't you estimate a relationship between E0 and Ea? Instead of XGBoost, why can't we use linear regression or autoregressive function? What is it in here that we cannot get elsewhere?

The author then introduced Shapley values and claimed it a game-theory-based feature importance ranking. If the purpose was to introduce a new feature ranking scheme, it should be compared to other methods to show its validity. This dilutes the focus and

looks like a demonstration of software capabilities.

The organization and writing of the paper are poor. There needs to be a clear positioning of the paper in the context of what has been known. The introduction is supposed to position the work in the context of the literature. For ET, that is a lot of literature. Although the authors cited some ML for ET papers, they were discussed very surficially. Instead the introduction was extremely surficial and entirely omitted all the literature in ET in hydrology. Then the authors spent 8 figures presenting stuff that has no modeling components. It was very hard to understand what were the inputs and what were the outputs from Methods. This was instead discussed in the Results section. The authors used "unprecedented" and "for the first time" very casually. There are things we do and things we don't do and there must be a clear reason why we do them.