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**Steve Huntsman\*** ([steve.huntsman@baesystems.com](mailto:steve.huntsman@baesystems.com)), 4301 N Fairfax Dr, 8th Floor,  
Arlington, VA 22203. *Functorial cluster embedding*.

The nonlinear dimensionality reduction technique of tree-preserving embedding (TPE) turns out to be functorial. Meanwhile, the category-theoretical classification of hierarchical clustering schemes also gives a recipe for transforming TPE into functorial dimensionality reduction techniques. We review TPE and functorial clustering en route to highlighting functorial cluster embedding as an example of how category theory can inform principled algorithms. (Received May 29, 2019)