Generating Geospatially Realistic Driving Patterns Derived From Clustering Analysis Of Real EV Driving Data

In order to provide a vehicle fleet that realistically represents the predicted Electric Vehicle (EV) penetration for the future, a model is required that mimics people driving behaviour rather than simply playing back collected data. When the focus is broadened from a traditional user-centric smart charging approach to be more grid-centric, it suddenly becomes important to know not just when-and how much the vehicles charge, but also where in the grid they plug in. Since one of the main goals of EV-grid studies is to find the saturation point, it is equally important that the simulation scales, which calls for a statistically correct, yet flexible model. This paper describes a method for modelling EV, based on non-categorized data, which takes into account the plug in locations of the vehicles. By using clustering analysis to extrapolate and classify the primary locations where the vehicles park, the model can be transferred geographically using known locations of the same classification.