Impact of Background Devices on Modern Energy Disaggregation
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NILM (Non-intrusive Load Monitoring), a computational technique that separates aggregate power data monitored from a single point source into constituent appliance loads, is employed provide feedback to occupants about how energy is used within their home, allowing them to make more informed choices regarding conserving power. One of the key challenges in NILM is performing accurate disaggregation in environments containing large numbers of independent devices, which include most real-world buildings. Considering the impracticality of complete energy breakdowns, load disaggregation often focuses instead on specific devices of interest, called foreground devices, while leaving the large de-2.3 ( )10. (d -2.3 gamma 9) MAE) and (F) 4 score 5 0 al. for 1 5 674 nd devices 7 8s 1 800 2 Tou 8 3 (1) 1019 (h 4 6 a) tesimp mphid pod

In the second stage employed the ranking algorithm to estimate the five most significant background devices. Since the ranking algorithm requires a choice of disaggregation algorithm as well as a target metric, considered 4 differen Funded

References: [1] G.W. Hart. 1992. Nonintrusive Appliance Load Monitoring. Proc. IEEE 80, 12 (Dec. 1992), 1870-1891 https://doi.org/10.1109/5.192069 [2] Nipun Batra, Jack Kelly, Oliver Parson, Haimonti Dutta, William Knottenbelt, Alex Rogers, Amarjeet Singh, and Mani Srivastava. 2014. NILMTK: An