

NILM (Non-intrusive Load Monitoring)¹, 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, or so-called foreground devices, while leaving the large de-2.3)10. (d -2.ganRMSE, MAE (n=4.6 (7550 For 11.674-0.7657770+8002 Tok 30)106 (ti-4.6) inc exp hid pod aDhia1.8 0 Td(

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

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