Forecasting System for the Optimal Management of Household Appliances and Storage

UNIVERSITÀ DEGLI STUDI FIRENZE

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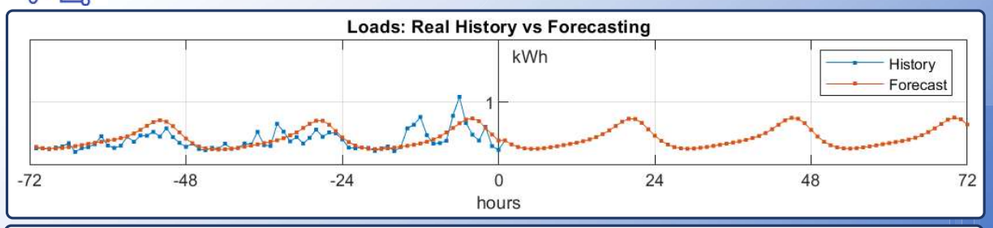
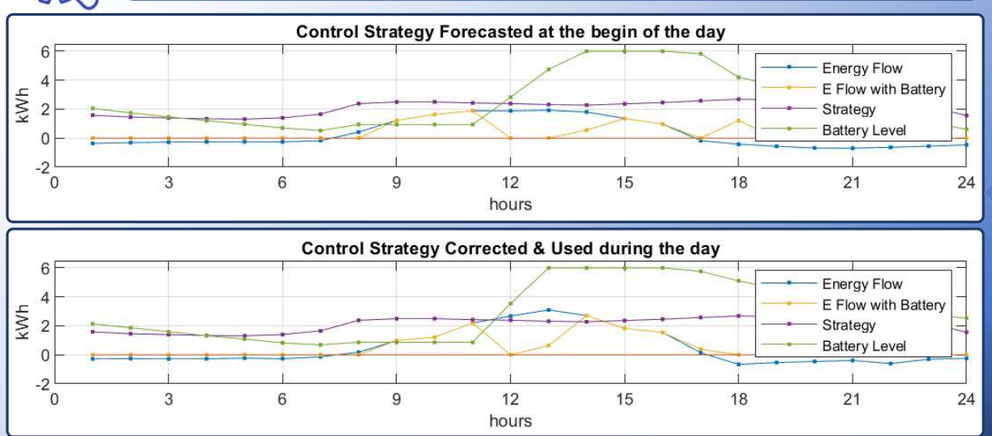
Forecasting (with LSTM Neural Network)



Developed in collaboration with Dott. Matteo Intravaia

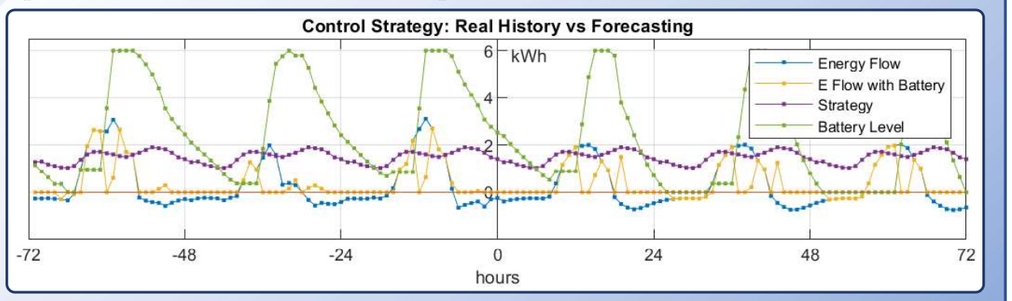
Correction



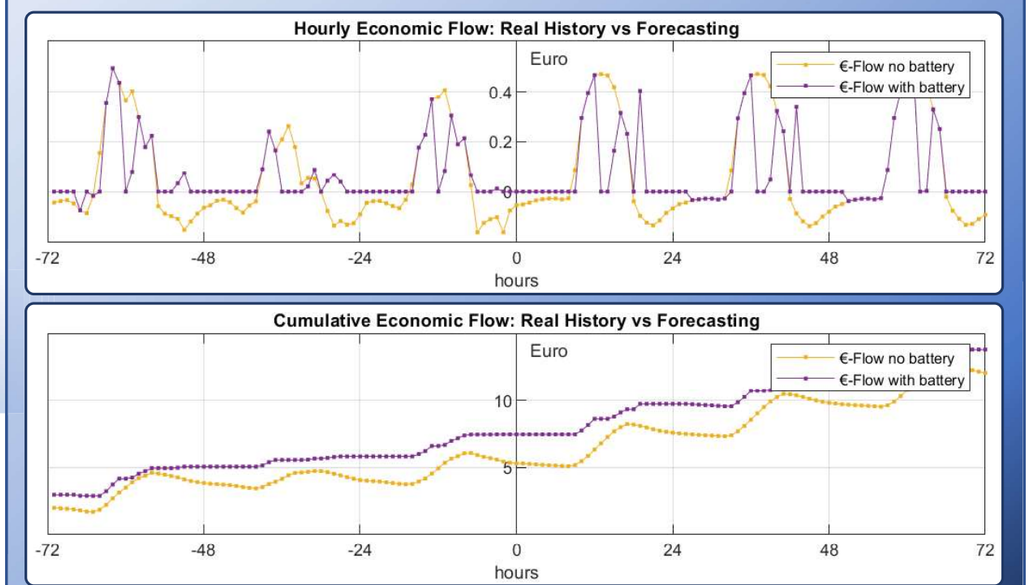
Energy Management System

Planning & Optimization

Every hour the Energy Flow Profile is forecasted and assumes the form of a sequence of intervals where the flow is monodirectional, positive from the prosumer to the grid and negative in the other case. The actions on the storage are scheduled in such a way as to level the profile of the effective energy flow. Only the first planned command is used in each loop.



A valid strategy to base on the scheduling of those actions is the hourly cost of the energy. Indeed, that allows the pursuit of two different objectives at the same time, the maximization of the Cash Flow and the stabilization of the grid's interactions.



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