

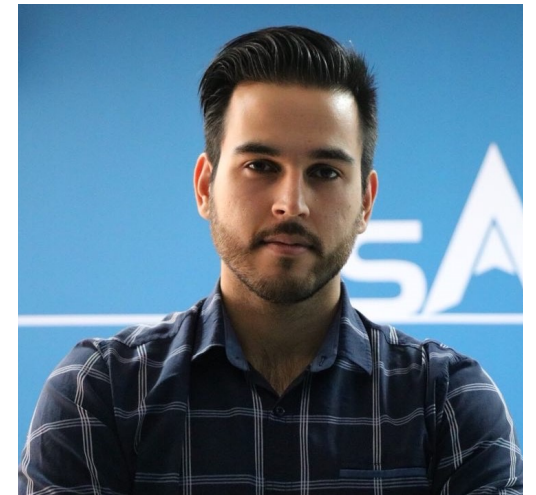


Réseau québécois sur l'énergie intelligente

Mozaffar Etezadifar

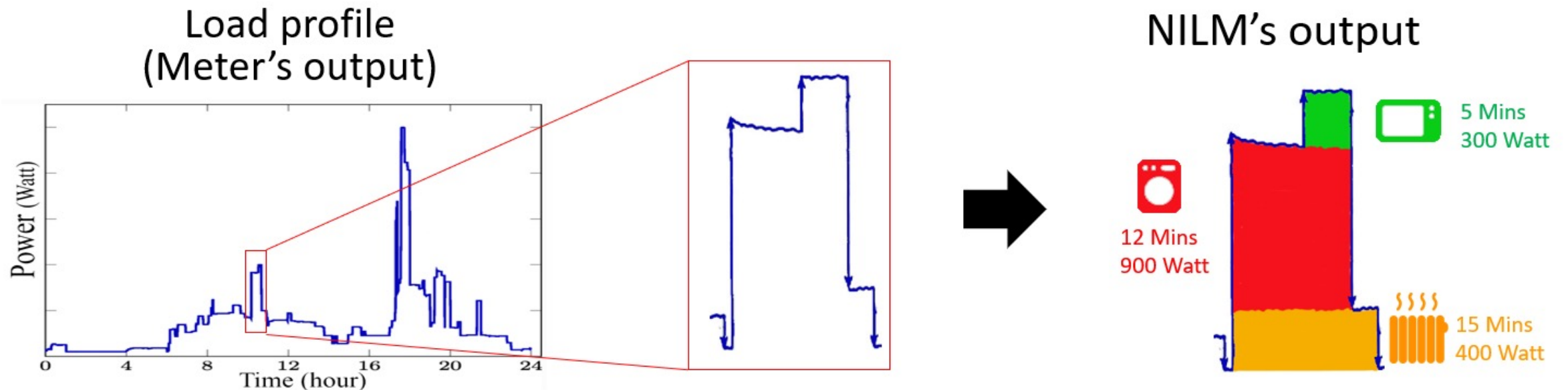
A New Non-intrusive Load Monitoring Method for Demand Side Management, Using Reinforcement Learning

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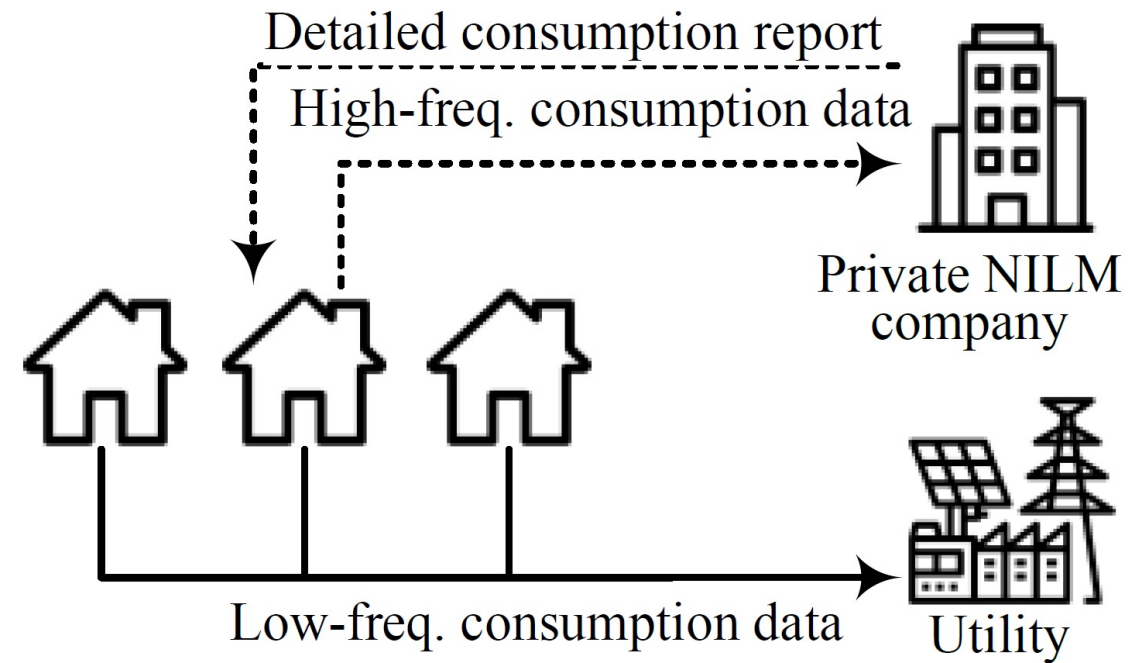
Non-Intrusive Load Monitoring (NILM)

- A technique to:
Dissagregate total electrical load profile, into individual load signatures



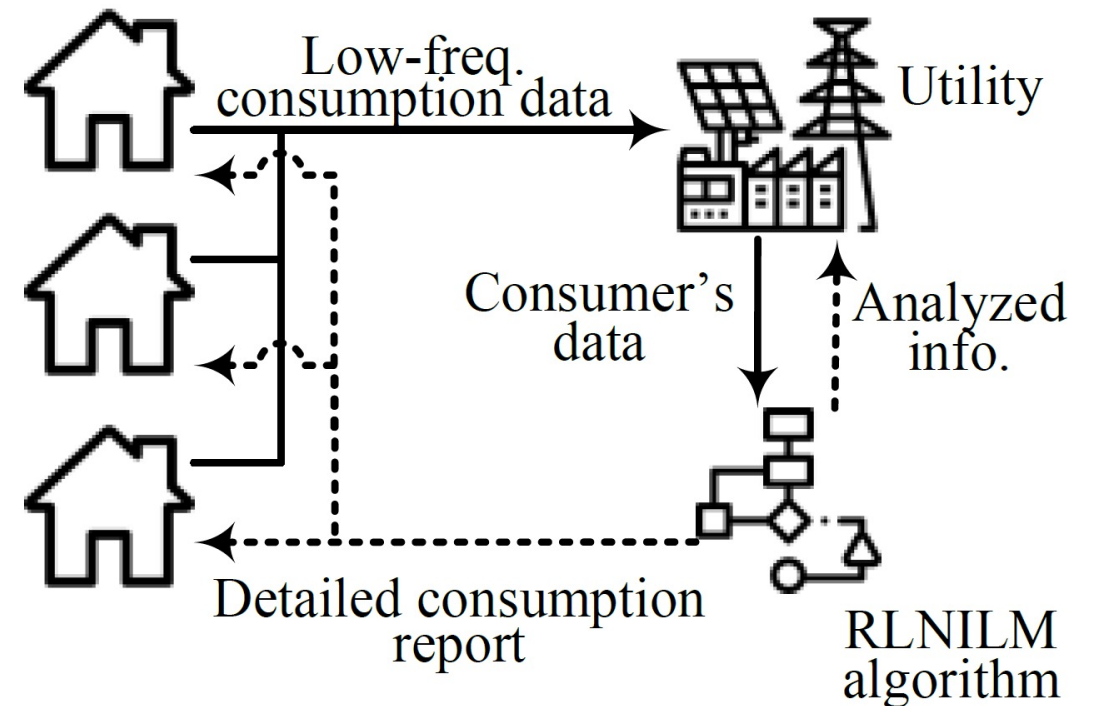
Problem: Current NILM solutions

- Problems:
 - High-res. sampled data
 - Extra cost for households
 - Unable to identify all load types
 - No data-sharing with the grid

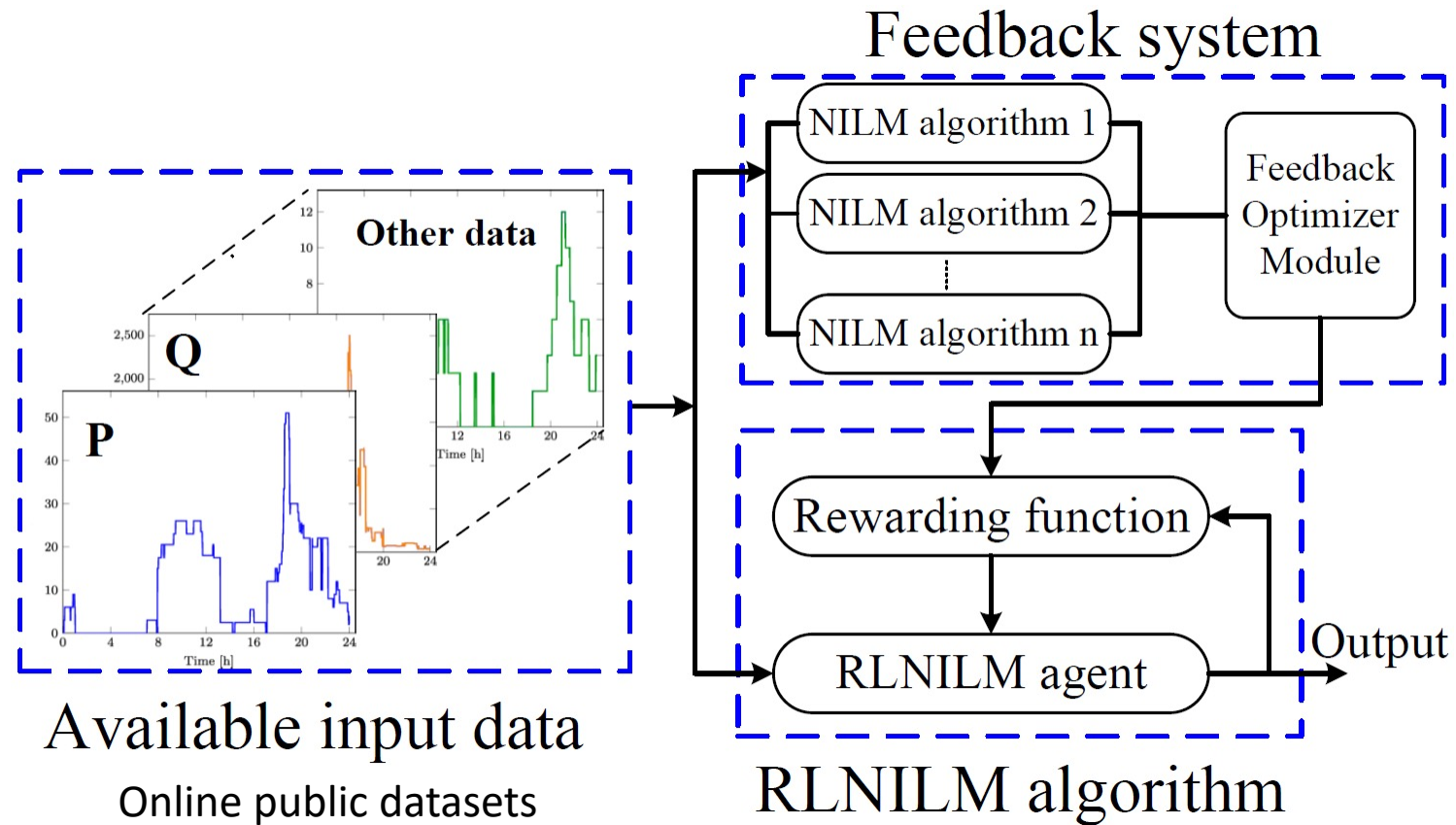


Solution: The proposed method

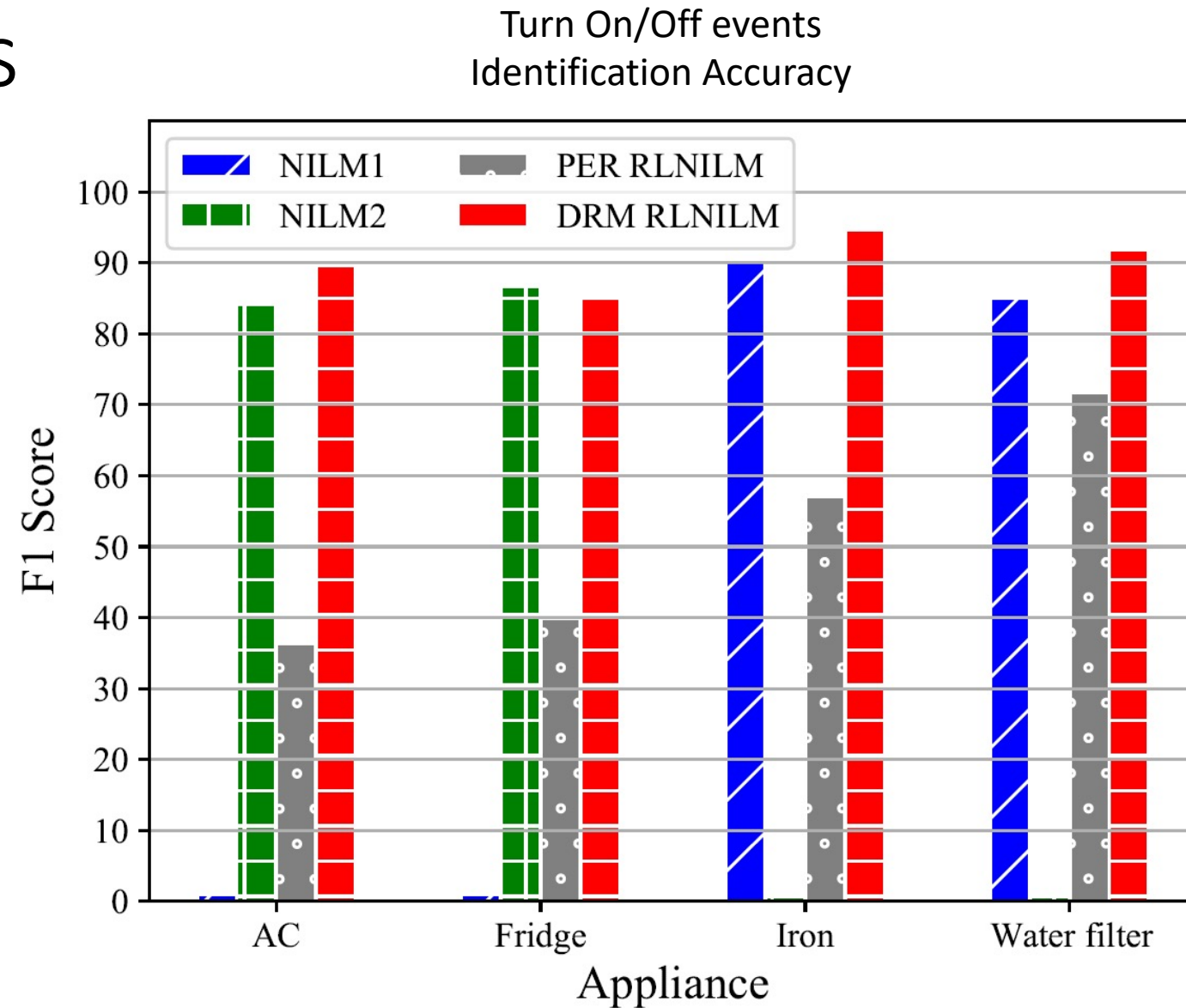
- Benefits:
 - Low-res. smart-meters data
 - No extra cost for households
 - Includes all users
 - Identifies all possible load types
 - Data is shared



Reinforcement Learning NILM



Our results



Applications in the power grid

- 1 - More efficient energy auditing
- 2 - More efficient DSM:
 - a. Peak hour recommendations
 - b. Better understanding of consumers' behavior
- 3 - Better pricing strategies
- 4 - ...



THANK YOU - MERCI!